152-A

Jeff. Co. and Uni. of Lou. Medical Library.

THE JOURNAL

OF THE

OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XVIII MUSKOGEE, OKLA., JULY, 1925 NUMBER 7

DIARRHEA IN INFANTS FROM THE STANDPOINT OF THE GENERAL PRACTITIONER*

CATHERINE BRYDIA, M.D.
ADA

The things that should concern the practitioner most, when confronted with a case of Diarrhea are, First, determine the etiological category into which the case comes, and Second, should view all the methods of treatment.

Since we know that more children die the first two years of life with Diarrheal diseases, than all other diseases combined, we can appreciate the importance of the general practitioner having a greater understanding and clearer picture of the disease.

The recent advances in Physiological Chemistry and Bacteriology and infant feeding with the systematic study of cases, have thrown new light upon infantile diarrhea, and furnished new indications for treatment.

For convenience, we will divide cases into the following clinical group.

Nervous Diarrhea.

Food Intolerance or Food Injury.

Infection, and we might add underfeeding, or starvation diarrhea.

There is no sharp line of differentiation of groups. Types shade one into another.

The points of general agreement are bad hygiene, bottle feeding and the influence the external heat has in promoting the disease.

Nervous Diarrhea is apparently caused by an increased reaction of the nerves to the stimuli which produces peristalsis and an increased intestinal secretion. As a result, the food is passed more or less unchanged. Holt speaks of these infants as the Hypertonic type. Such infants should be kept quiet, with no excitement or unnecessary handling.

* Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

Food Injury is classified by L. T. Rayster under three headings:

1st—Acute, in which proper food is given but the intestinal tract is overloaded.

2nd—The accidental administration of an excess of one or more food elements, either fat, sugar or protein.

3rd—Food injuries (chronic).

A child with a beginning intolerance for one of the food elements will eventually acquire an intolerance for all others if the elemental portion is not regulated in time.

Diarrhea caused by too much fat and sugar make up the greater portion of our summer diarrheas in children.

Protein diarrheas are rare in infancy.

The Diarrheas just mentioned are the result of decomposition of foods in the gastro intestinal tract, and there are no anatomical lesions.

Infectious Diarrhea or Dysentry is a specific infectious disease caused by a number of organisms, which may be primary or secondary to the above mentioned, due to the invasion of the intestinal walls by Bacteria whose life processes produce destruction of the mucosa. Anatomical lesions appear in the gastro intestinal tract. As a result of this condition large amounts of blood, pus, and masses of mucus and necrotic material appear in the evacuations.

Diarrhea from underfeeding is characterized by green and watery stools from the lowered functional capacity of the gastro intestinal tract, while the mucus is simply the result of excessive peristalsis. These cases improve rapidly with proper feeding.

Symptoms.

The number of stools passed in twenty-four hours may be as many as ten to thirty. The stools are hurried through so rapidly that water is not absorbed. The sugars are rushed along so fast that they are not completely broken down and assimilated. Thereby much gas is formed, the stools are acid and excoriate the buttocks.

The fats are broken down, liberating the lower fatty acids, which are extremely irritating to the gastro intestinal tract, producing watery stools.

The end product of proteid decomposition is putrefactive and intensely foul stools. The stools are not so numerous and the temperature is not so high. The reaction of the stool is alkaline. A point in differential diagnosis between a fat and proteid curd is that the former will dissolve in ether and the latter will not.

Unfortunately, the general practitioner is rarely called in the first disturbances. The mother usually thinks that teething produces a diarrhea and resorts to daily doses of calomel and caster oil, without placing any importance on the diet.

The doctor is called in the fermentative or toxic stage. The first, or restless stage, is replaced by drowsiness, eyes half closed, persistent temperature, frequent watery stools, consisting of mucus, tinged with blood, tenesmus and prolapse.

The conditions most to be feared are toxemia and dehydration. The loss of water causes blood concentration, failure in urinary secretions, and acidosis. These cases show signs of collapse, with deep sighing respiration, air hunger, eyes sunken, face pinched looking, rapid pulse, and in severe cases convulsions and meningitic symptoms, with even Cheyne-Stokes respiration.

Treatment

Prompt treatment necessary and consists of the following points: Rest, food correction, eliminating toxemia, preventing dehydration, and medical.

Rest. Keep the baby in cool part of house with fresh air. Avoid unnecessary handling. Do not expose to hot sun during the day or chilly night air. Light clothing during the day, and a shirt to keep stomach and abdomen warm at night.

Food Correction. Most difficult problem for the general practitioner. The Pediatrician can devote more time and he is usually better equipped for making physiological and chemical test and has hospital and trained nurses at his command, while the rural cases fall into the hands of the general practitioner, who is forced to take heroic measures and do radical treatment under difficulties.

The infant should be put on starvation period for 12 to 24 or 36 hours, the time depending on the condition of the child. Water should be given freely. The starvation period may help to make the diagnosis by allowing the gastro-intestinal tract to empty itself of such food materials as may be serving as culture media for Bacteria. In a case where improper feeding in the cause, this starvation period also gives the gastro-intestinal tract a rest, relieving a part of the exaggerated peristalsis. The next thing is to get food which can be used immediately, and one which the baby can tolerate.

As the majority of these infants are suffering from both fat and carbohydrate, the ideal food would be one high in proteid. This would change the intestinal flora from a fermentative acid state to a putrefactive alkaline state. Eiweissmilch's protein milk fills this requirement. This preparation is made by separating the whey from the curd, breaking the curd by putting it through a fine sieve and adding it to buttermilk.

It is not good policy to deprive an infant of carbohydrates for too long a period, increasing the amounts of sugars that are difficult to ferment. Dextri-Maltose or corn syrup should be used. These sugars when added in small amounts are rapidly absorbed and thus the glycogen reserve of the body is brought back up, and nutrition and resistance is kept up. The more severe the diarrhea the more slowly we raise the sugar.

Diarrhea in breast fed babies is uncommon and rarely fatal. If breast milk can be procured from a healthy woman, it is always the safest diet.

The toxins are eliminated by stopping all food and evacuating the stomach and bowels. This may be done by washing the stomach with a sodium bicarbonate solution, and washing to colon twice daily with a sodium or saline solution.

Dehydration should not be allowed to occur. Give water by mouth as near the temperature of the body as possible. The intake of liquids must be watched for the amount of water loss due to frequent stools is much greater than usually estimated from the number and amount passed, because of water being absorbed by the diapers.

If water is not taken well by mouth, give normal saline subcutaneously at a temperature of 105 degrees Fahrenheit, about 3 to 6 ounces at a time at intervals of 5 to 6 hours. The intraperitoneal route is a safe, quick and easy method of combatting toxemia and loss of fluid. Use normal saline or Ringers solution, giving 150 to 400 C. C. It is absorbed quickly

and may be repeated two or three times daily.

Drugs play a small part in treatment. They are sometimes valuable and many times harmful. An initial dose of castor oil or some other light cathartic may be given in a case where it is known that the baby has eaten something that will be harmful, but when the diarrhea is severe the gastro intestinal tract will usually empty itself, and as a rule cathartics are too often used indiscriminately.

In persistent vomiting after stopping the food, paregoric in doses of 10 to 30 minims and repeat after each emesis will not only relieve the vomiting and diarrhea, but acts as a stimulant which is perhaps due to the camphor.

Bis-subcarbonate is perhaps valuable in some cases, given in doses 10 to 20 grs.

In severe cases of infectious diarrhea with tenesmus and prolapse, morphine given hypodermatically in grs. 1-100 to 1-60 most valuable of all drugs.

Hyperpyrexia. The temperature should be controlled by water. By giving plenty to keep up the body fluids and to dilute the toxines and externally by packs about 80 degrees F. This not only relieves the Hyperpyrexia, but relieves the nervous symptoms as well.

Colon irrigation also valuable.

Conclusions:

1st. Prophylaxis—most essential by properly proportioned food elements.

2nd. Early attention in state of first disturbances by withdrawing food and producing rest.

3rd. Preventing dehydration by keeping up the body fluids.

4th. Opium in some form when indicated in severe cases.

LACTIC ACID MILK IN ARTIFICIAL FEEDING*

C. V. RICE, M.D.
MUSKOGEE

The artificial food for the infant should be cow's milk and it is seldom that we find a baby that has an idiosyncracy for it. As a rule, the failure to gain in weight is not due to the cow's milk but to the modification.

Artificial feeding may be accomplished successfully in a number of ways if certain fundamental conditions are fulfilled. These requisites are as follows:

> The food must be sufficient to cover the caloric demands,—protein, carbohydrate, fat, mineral salts, water, pigment and vitamines A. B. C. and D. It must also be digestible and free from harmful bacteria. When any of these requisites are neglected the infant will not develop normally. He must be given a sufficient amount for tissue growth, heat and energy.

The first step to be taken in finding the amount of food for twenty-four hours is to find the caloric requirements for the child. As the normal infant requires 45 calories per pound, his given weight is multiplied by 45. The amount of whole cow's milk necessary for twenty-four hours feeding is determined by multiplying the weight of the child by 1½ ounces. Premature, or under-fed infants may require two or three ounces per pound. Additional fluids must be added to the whole cow's milk to bring the total volume to the amount normally taken by the breast fed infant. Water is used as a diluent during the first two or three months of life and from then until the sixth month a 3 per cent cereal water; after the sixth month a 6 per cent to 8 per cent cereal gruel. For a single feeding, the additional amount of fluids necessary to add to the cow's milk may be determined by giving it two ounces more than the number of months old and this, in turn, multiplied by the number of feedings in twenty-four hours, will give the total ounces of milk and water. The milk subtracted from the total mixture is the amount of water to be added.

Example:

Baby 2 months old,
Weight, 10 pounds.
X 1½ ounces of milk equals
15 oz. of cow's milk for 24 hours.
Age 2 months,
+ 2 ounces more of milk mixture than number of months (2 mos.) equals
4 ounces.
X 6 feedings in 24 hours equals
24 ounces.
Less 15 oz. of cow's milk equals
9 oz. of diluent.

We will now briefly consider the elements of milk which are so important for the proper development of the child.

* Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

Protein is one of the most important elements of milk and is essential for cell construction and replacement of nitrogenous waste.

Mineral salts are furnished in abundance in both mothers' and cows' milk. There are more Cal. Mg. and Phos. present in cow's milk than in breast milk. With the calculation of 1½ ounces of cow's milk to the pound weight of the infant, there are sufficient amounts of protein, salts and fat to carry on their important function—growth.

Fats are not of as much importance as protein and the deficiency can be made up with sugar. The fat of cow's milk is less completely absorbed and is more likely to produce gastro-intestinal irritation than the fat of breast milk.

The infant gains more rapidly when he receives a fair amount of sugar in his diet and it also increases the caloric value of the food. The sugar selected should be Dextrin-Maltose or cane sugar. The amount added for the twenty-four hours is ½ ounce the first two weeks of life, then 1 to 1½ ounces up to the third month and after three months, 1½ to 2 ounces.

Buffer is the capacity to absorb a larger amount of acid or alkali without significant chemical reaction. The buffer reaction is much higher in cow's milk than in breast milk and about three times as much acid is necessary to bring cows' milk to the same degree of acidity as in breast milk. This fact is important to remember in infant feeding.

Boiled milk is much more easily digested by infants than raw or pasteurized milk and is less likely to lead to digestive disturbances. The only vitamine destroyed by boiling the milk is the anti-scrobutic vitamine and it can be supplied by the addition of orange juice or tomato juice to the diet. Constipation and diarrhea is much less frequent.

Milk with a high bacterial count does not always lead to disease as they may be of the harmless varieties; however, it may contain those types that cause serious gastro-intestinal disease and for this reason milk should be boiled and in so doing all toxic bacterial products are destroyed.

The vitamines A and D fat soluble may be supplied by adding cod liver oil to the diet. Vitamine A aids growth and D prevents rickets.

With all the requisites mentioned and the following figures to be used as a basis for calculation, one may expect 80 per cent of artificially fed babies to thrive on sweet milk mixture.

	Calories per ounce
Whole milk	20
Sugar	120
3 per cent barley water	3
6 per cent barley water	6

Example:—Baby five months old, wt. 15 pounds—

Number of calories required is 45 calories times 15, equals 675 calories.

Amount of cows' milk required is 1½ oz, times 15, equals 22 ozs.

Amount of mixture is 2 ounces plus 5, equals 7 ozs. each feeding.

Amount of mixture in 24 hours is 7 ozs. times 5 feedings, equals 35 ozs.

35 ozs. of mixture, minus 22 ozs. of milk equaly 13 ounces diluent.

Amount of sugar required is 1½ ozs.

Whole milk 22 ounces X 20 cal. per oz. equals 440 calories.

6 per cent barley water 13 ozs. X 6 cal. per oz, equals 78 cal.

Sugar 1½ oz. X 120 calories equals 180 calories.

Total 698 calories.

The amount of calories is a little more than required for his age and weight but in round numbers is all right.

Now, if only 80 per cent of babies will thrive on such a mixture, we have 20 per cent that must be given some other feeding. This is where Lactic Acid milk plays the important part. Milk of this type is especially suitable for infant feeding, due to the freedom from harmful bacteria and its low buffer value as a considerable portion of its buffer substance is neutralized by the acid produced. Infants are able to take much larger quantities of Lactic Acid milk than sweet milk, and it is the most satisfactory form of infant feeding.

It may be produced by two methods: Artificial souring of milk by acid producing organisms, or by the direct addition of Lactic Acid to sweet milk. The former method is by adding a culture of the Bulgarian Bacillus or Bacillus Acidophilous, or Lactic Acid Bacillus to sweet sterilized milk, and this is put in a warm place for about twelve hours. At the end of this time the casin is partly precipitated in the form of a fine, flocculent curd. Milk

prepared in this manner can usually be obtained from dairies and it is more advisable to do this than to make it in the home.

The second method is the one that is recommended by Merriott for preparing Lactic Acid milk in the home. Lactic Acid U. S. P. (75 per cent or 85 per cent) is added directly to fresh, clean milk that has been boiled for five minutes, cooled, made cold, and the scum removed. Three-fourths teaspoonful of Lactic Acid is added slowly, drop by drop, to one pint of the cold milk and the milk stirred slowly after each drop. If this is done slowly and there is a continuous stirring, a smooth homogeneous preparation can be expected. The concentration of acid, the taste and the general physical properties are the same as that occurring in ordinary buttermilk. Carbohydrates are now added to the mixture, and this may be either Dextrin-Maltose or Blue Label Karo Syrup. The amount depends upon the condition and the age of the child, but never less than one ounce in a 24-hour mixture. With no other milk modification can a baby take so large an amount of sugar without any bad effects and really gain as he can with Lactic Acid milk. In fact, it seems as if there is no limit to the amount of Karo Syrup that can be added with no ill effect to the infant.

Of the 20 per cent mentioned, there are a few who will not do well on Lactic Acid milk and we find that these few will not do well on any food. This is due to some physical condition of the child as a congenital defect or an infection. When one comes in contact with an infant of this type he should not blame the diet and change from one food to another, but should look for such conditions as Syphilis, Congenital Heart, Tuberculosis, Pyelitis, Otitis Media, or Mastoiditis. If any of these are found and relieved, the expected gain will be made with Lactic Acid milk.

With Pyloric Stenosis, you can feed more calories with Lactic Acid milk and the infant will stand a better chance of overcoming the condition without an operation than with any other food. Ten per cent barley flour is added to the milk which makes a very thick mixture, and it cannot be vomited. With the addition of the barley flour the Lactic Acid milk may be boiled without forming a big, solid curd, but without the flour it should not be heated above body temperature. This thick mixture may be fed through a large hygeia nipple which has the end cut off. The food is placed in the nipple with a spoon and pushed through with a glass rod. If the infant is unable to swallow it, you can use a glass syringe—about a 4-ounce size. Place the mixture in the syringe, insert a small catheter in the stomach, through the mouth, connect the syringe and pushing the plunger, the baby is fed. In non-operative cases, the vomiting not only subsides, but the baby gains in weight as he is getting the required number of calories.

The advantages of Lactic Acid Milk:

1. Inhibits bacterial growth.
2. It does not require refrigeration.
3. May be taken in large quantities with less risk of gastro-intestinal disturbances.
4. It is possible to add more sugar than to sweet milk without disturbing digestion.
5. A large portion of the buffer substance of milk is neutralized by the acid.
6. It is a better hot weather food for infants as it does not cause diarrhea or vomiting.
7. Premature infants may be fed with good results.
8. It is easily prepared in the home and on the whole it is the most ideal food that can be used in artificial feeding of the normal or sick infant.

DIET REQUIREMENTS OF THE INFANT*

C. W. ARRENDELL, M.D.
PONCA CITY

The food requirements of artificially fed infants may be taken as approximately the same as that of breast fed infants of the same age and weight. Even though the metabolism of breast fed infants is maintained more economically, it must be remembered that the breast fed infant is able to stand a considerable amount of over-feeding which in the artificially fed would result in injury.

In estimating the result of feeding, increase in weight remains the most important index during the first months of life. The great majority of dietary dis-

* Read before the Section on Obstetrics and Pediatrics, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

turbances of the infant can be simplified on a basis of whether it is getting too little or too much food. Consequently, the frequent use of scales before and after feeding will correct many erroneous ideas, such as: Crying as need for more food; green stools or diarrhea, for castor oil and starvation; vomiting as caused by bad milk, teething or worms; and many other ingenious deductions of antiquity that are still advanced as scientific by many present day physicians. However, beside the actual gain in weight it becomes of equal importance to recognize the steadiness of the gain, the muscular tone, the vigor, color, bone development, adequate sleep, good disposition and the regularity of the bowels and bladder.

In the application of any rules for feeding of infants, it must be remembered that each infant must be fed to meet its individual and peculiar requirements. Breast milk being the food originally intended for all infants the idea that it is poisonous or poor in quality is to be discouraged. Everything else being equal, for successful nursing the proper quantity of breast milk at the proper interval with a little sunshine and lots of restraint on the part of those in attendance is the sole and absolue requirement. It might be well to add that Marriott has pointed out that a baby doing poorly at the breast will usually do worse if entirely weaned and put on a bottle.

However, if after mature consideration, it is found necessary to give the baby food other than breast milk, there should be no guesswork in selecting this food. It will be admitted that the methods of feeding that have been and still are in vogue have been more or less successful, though too often wrought with failure, because strict attention was not given to all the fundemental requirements as a group. The caloric method stressed the importance of enough calories but neglected other essential requirements. The simple dilution method is to be commended but in this method very often the calories or proteins or other essentials are insufficient. The same may be said of the percentage method and the concentrated feeding method, as well as all other methods which have not been broadened to take in all the requirements that must be met in fitting a diet that will be as successful as humanly possible. These requirements as advocated by Marriott, involve several details yet are so simple and so practical that almost universal success can be assured. As has been stated an infant may be successfully fed in a number of ways but the highest degree of success will be attained only when all fundamental conditions are fulfilled. The requirements of such a food must:

1. Be sufficient to cover the caloric demands.
2. Supply at least a certain minimal amount of protein, carbohydrate, mineral salts, water and vitamines A, B, C, and D.
3. Be capable of digestion.
4. Be free from harmful bacterial contamination.

In terms of caloric value a normal infant will require a diet containing not less than 100 calories per kilogram of body weight every twenty-four hours. This is used as follows; 60 calories for maintaining body functions while at rest or the basal metabolic rate; 20 calories for exercise or work; 15 calories for normal growth, and 5 calories as waste.

Infants who are underweight require the same amount of total food per day as those who are normal in weight, although this amount may be considerably more than 100 calories per kilogram of body weight. For example, a normal infant six months of age, weighing 7 kilograms requires approximately 700 calories per day. An undernourished infant six months of age weighing 4 kilograms would also require very close to 700 calories per day and this would mean 175 calories per kilogram. In the case of overweight infants the converse is true. The fat infant has a lower food requirement per kilogram of body weight. This is probably due to the fact that fat is a relatively inert tissue acting very much like an overcoat and requiring very little energy for its maintenance. The thin and the fat infant may have approximately the same amount of active muscular tissue and the same size heart and lungs and although their total body weights are very different it is the active protoplasmic tissue of the body which determine the food requirements rather than the actual weight.

The final test of the adequacy of the diet is the response on the part of the infant. It is often necessary to give food of a considerable higher caloric value than would be anticipated. Most failures in infant feeding are due to failure to supply sufficient calories to meet the infants requirements. And unless the energy require-

ments can be met, the infant will fail to do well even though the food may be easily digestable and otherwise perfect in composition. Thus it is important that the caloric value of the food be calculated in every instance to avoid gross errors of under feeding and over feeding.

Infants are not usually able to digest as large an amount of cow's milk as of human milk. This difference is explained by the fact that cow's milk has the capacity to bind chemically large amounts of acid, that is to say has a high "buffer" value as compared with breast milk. Approximately three times as much acid must be added to cow's milk as to breast milk in order to bring the free acidity of the resultant mixture to the same point. The continued feeding of cow's milk to infants leads ultimately to a somewhat increased secretion of acid in the gastric juice. In general however, the acidity of the stomach contents is less than the optimum when sweet cow's milk is fed. Dilution is the customary means of reducing the total amount of cow's milk in a formula. Tnus dilution reduces the amount of buffer substance in the whole formula which makes it possible for the infant to digest the food. Very often, however, the dilution must be carred to such a point as to make it impossible for the formula to contain enough calories to satisfy the demands of the baby. Then if enough sugar is added to fulfill the calorie requirement the total amount of protein is too low which causes diarrhea and other troubles to result.

The average infant will require a minimum of 1.5 grams of protein in twenty-four hours per kilogram of body weight though twice that amount is the suitable protein ration. This amount of protein is available when 100 grams of cow's milk per kilogram of body weight is given.

The optimum amount of carbohydrate required during infancy is about 10 grams per kilogram of body weight in twenty-four hours. It has been observed that an infant will take larger amounts of sugar when a mixture of sugar is fed than when a single sugar is given. The explanation is that intestinal bacteria capable of fermenting one form of sugar may not ferment others as well. For the same reason an infant with digestive disturbances is often benefited when one sugar is substituted for another in its diet. Starch does not readily ferment in the intestinal tract and is therefore a valuable food for infants with digestive disturbances and many infants begin to gain weight when a small amount of starch is added who do not gain when the same amount of calories in other forms are added. The combination of sugar best fitted for routine feeding is found in corn syrup or blue label Karo which has the composition of 55 per cent dextrin, 30 per cent maltose, 15 per cent glucose and therefore does not readily ferment. It has the additional advantage of being cheaper in price than most other sugars. One-half ounce is the amount added to the diet during the first two weeks; one to one and a half ounces added up to 3 months of age; after which one and one-half to two ozs. are given. After the age of nine or ten months addition of this much sugar is not generally necessary, as carbohydrates are supplied more in the form of cereals. It should be observed that when the diet is high in sugar the protein should be proportionately increased.

There is ordinarily no need for the addition of extra mineral salts to the dietary of normal infants on either human or cow's milk, at least during the first few months of life. After six months the addition of iron is desirable and this can be accomplished by feeding of green vegetables or meat juices.

It has been demonstrated that animals cannot live on a mixture of pure protein, carbohydrate, fat and salt, even though all these may be present in adequate amounts and suitable proportion. These substances as yet unidentified which are essential to life and growth are known as Fat Soluble Vitamins A and D, and Water Soluble Vitamins B and C. To further complete the diet when cow's milk is used orange juice is always added at the age of six weeks or two months and cod liver oil in very small daily amounts is given routinely after three months of age. As breast milk does not supply sufficient water soluble vitamins, orange juice or tomato juice is added to the diet of breast fed infants at the second or third month. Breast milk is thought to be rich in fat soluble vitamins. At least experience proves that very few breast fed babies develop rickets. Consequently, cod liver oil is not necessary as it is when cow's milk is used entirely, though to be absolutely sure that neither the artificially fed nor the breast fed infant will not develop any signs or symptoms of rickets it should be emphasized that skin irradiation by direct exposure to the sun's rays

is as essentially necessary to the infant as it is to the proper growth and development of plant life. In the light of recent experiments of Harry L. Steenbock and Amy L. Daniels it would appear that irradiation of the breast fed infant occurs very readily through its intimate contact with the mother during nursing, whereas such contact is absent in the bottle fed baby. This may be the reason why artificially fed babies are more prone to develop rickets.

A normal infant thrives best when receiving from 100 to 150 grams of water per kilogram of body weight per day, whereas a normal adult usually requires not more than 30 to 40 grams per kilogram per day. The higher water requirements of the infant is to be explained on the basis of his higher rate of metabolism. Usually most of the infant's water intake is supplied in the breast milk or formula.

To insure the digestibility of a cow's milk formula usually depends on the total amount of milk used or in the reduction of the buffer substance. Normal digestion occurs only at a certain optimum degree of acidity. If the high buffer substance in sweet cow's milk soaks up all the Hydrochloric acid an infant can secrete before the optimum degree of acidity is reached then normal digestion cannot occur. Therefore lactic acid milk easily takes the premier position in its adaptability to all infants because of the reduction of the buffer substance. Experience shows that when necessary larger amounts of sugar may be added to lactic acid milk than to the ordinary dilutions of sweet milk without producing fermentation, diarrhea or vomiting. From the standpoint of protein requirement it is not always possible to give enough diluted sweet cow's milk whereas lactic acid milk easily furnishes the required amount.

All cow's milk should be boiled at least three minutes because this process absolutely insures that the formula is free from harmful bacteria. Boiling also makes the milk more easily digested and thus more completely absorbs, leaving less residue, which explains the reason for some relative constipation. Boiling may destroy some of the vitamins but since these are added routinely as stated above, we will surely do our infants a wonderful service to sincerely agree on the advantages of boiled milk, for then only can comparative safety from intestinal infections be insured.

To summarize the fundamental requirements of an infant's diet whether breast fed or artificially fed, must:

1. Be sufficient to cover the caloric demands.
2. Supply a certain minimal amount of protein, carbohydrate, mineral salts, water and vitamins, A, B, C, D.
3. Be capable of digestion.
4. Be free from harmful bacterial contamination.

ETIOLOGY, DIAGNOSIS AND TREATMENT OF ACUTE OTITIS MEDIA*

HOWARD S. BROWNE, M.S.,M.D.
PONCA CITY

Acute Otitis Media is a disease occurring at all times of the year, more often in children than adults, and many times neglected by the patients, the parents and even the physician. The seriousness of an "earache and running ear" is many times overlooked, and regarded as one of the minor and necessary evils of childhood.

Etiology: Among the remote causes of Otitis Media may be mentioned, (1) The season of the year, (2) The age of the patient, and (3) The type of the associated disease. David T. Smith [1], in reviewing the records of over 600 cases finds that 47 per cent occurred during the month of February, and 23 per cent were found in July. In other words, more cases are found during the period of greatest susceptibility to colds, influenza, pneumonia and other diseases.

As to the effect of age upon the incidence of the disease he found that children between the ages of three and fifteen months are the most susceptible. It has always been known that otitis media occurs more frequently in some diseases than others. Pneumonia, dysentery, nasal diphtheria, pertussis and pyelitis, all show complicating otitis in 50 per cent or more of the patients according to Smith. Kaufman [2] states that influenza, pneumonia and measles are the most important general infections predisposing to this trouble. Local causes are infections confined to the upper respiratory tract, such as acute rhinitis and obstructive conditions. Anything that interferes with the proper ventilation of the nasopharynx and eusta-

* Read before the Section on Eye, Ear, Nose and Throat, Annual Meeting, Oklahoma State Medical Association, Tulsa, May 12, 13, 14, 1925.

chian tubes is a direct or indirect causative factor.

Chronic general diseases. such as tuberculosis, syphilis, scurvy, diabetes and nephritis are often underlying conditions. Alden [3] states that "practically all suppurative processes of the middle ear arise as complications of acute or chronic inflammatory conditions of the upper respiratory tract, more particularly in the pharyngeal vault, and the path of infection from the pharynx to the ear is always the same, though the eustachian tube."

Bacteriology: Hemolytic streptococci are found in 50 per cent of cases. (1) Staphylococcus aureus, B.Influenza, Pneumococcus and mixed cultures containing three or more forms of bacteria are other specific causes. Boyd-Snee [4] in reviewing the causes in 285 persons varying in age from 6 months to 60 years, says that the "causal agents of the initial infectious process in the middle ear appear to have been pure streptococcus, the streptocuccus in mixed strains, or mixed with other pyogenic cocci, (staphylococci and pneumococci) or bacilli influenza, pyocyaneus and diphtheroids.

Diagnosis: First and foremost is the development of pain usually worse at night. It maybe slight or excruciating. In a few cases pain is apparently absent. Tenderness can sometimes be found by pressure in front of the tragus and immediately below the lobe of the ear. In the acute infectious diseases with an absence of pain, the first sign may be a discharge. Significant symptoms in young infants are the attempt to get the hand up to the ear, and rolling of the head from side to side. Fever is practically always present and may vary in infants from 103 or 104 to 99.6 in older children. In adults fever may be absent.

In those cases of fever in infants in which no other cause can be found, the ears should be carefully examined. Many times otitis media is overlooked in young children for they are unable to tell where the pain is located. A good electric otoscope should be a part of every practitioner's armamentarium. Anyone can diagnose otitis media after the discharge begins, the important thing is to do it before nature ruptures the tympanic membrane,and thus irreparably injures the drum and causes the child to go through life with an open portal for infection which flares up every time the moon changes.

Treatment: Given a case of acute otitis media, how should it be treated? Most all of us are agreed upon the value of an early paracentesis, and yet I wonder how often it is advised, judging from the large number of "running ears" where no such treatment was adopted. A great many times the ear is syringed, hot applications applied together with some phenol and glycerine drops, and the appearance of pus anxiously awaited. We overlook the fact that nature's perforation of the tympanic membrane is a tension rupture from the increased intratympanic pressure from the accumulation of inflamatory products, and that the hole made is unfortunately ragged and does not heal as readily as a clean well defined incision from the paracentesis knife. Moreover the increased pressure may have disseminated the pus into the mastoid cells with disastrous results to the patient.

"By early paracentesis efficient drainage can be established, the risk of the spread of infection into the mastoid cells lessened, and in the vast majority of cases, pain immediately relieved"—F. Holt Diggle. [5] In the hands of those accustomed to aural surgery it is an operation devoid of risks, and gives excellent results both as regards preservation of hearing and resolution of the infection.

What to do for the discharge following paracentesis or rupture of the ear drum is the next question. There seem to be as many remedies as there are those using them. I think we can all agree that the ear canal must be kept clean. The use of peroxide for softening the pus is advocated by many and is used by the writer with satisfaction. Some form of antiseptic wash to be used at home is also advisable. Personal daily cleansing by the physician with cotton swabs is almost a necessity for speedy resolution of these cases. The use of antiseptics to sterilize the cavity has been tried with some degree of success.

For some time past a great deal has been written regarding the use of stains and dyes in treating discharging ears. Smith [1] reports results in eighty-eight cases treated with synthetic dyes as follows: "practically all the gram negative bacteria, except pyocyanus bacilli, are killed by a .5 per cent solution of sodium hydroxy-mercuri-benzo - phenone sulpho-

nate. Pyocyanus bacilli are readily eliminated by treatment with above solution which contains 2 per cent acetic acid. All the gram positive bacteria are readily killed by gentian violet except steptococci. Neutral acriflavine has been proved more potent in the treatment of otitis media associated with streptococci, but even this drug is not entirely satisfactory.

Oaken [6] reports the use of radiant heat and light in fifty cases as follows: The patients take daily two sittings of one hour each. After the first exposure the ear ache was markedly lessened, and the patients felt better. In most cases the drum membrane cleared up within two or three days, the exudate was absorbed and the bulging of the membrane disappeared. In all the fifty cases he was able to avoid a paracentesis. From four to ten exposures were necessary. In the perforative cases he recommends the following routine: (1) Cleansing the ear canal before exposure to light. (2) Daily exposures to light for one hour at 10 cm distance. [3] On an average, after the fifth day, an air douche once daily. (4) The use of hydrogen peroxide three times daily at home. On an average he reports ten exposures were necessary to cause a cessation of the discharge.

In conclusion, let me suggest that acute otitis media can be aborted or prevented in a great many cases by the removal of the tonsils and adenoids. The diagnosis should be made as early as possible. The treatment depends upon the case. The ear canal should be kept clean at all times after the discharge begins. Daily office treatments are better than to depend upon the home cleansings and will often shorten the time of the discharge.

Bibliography:—1 David T. Smith, Am Jr. Diseases of Children, July 1924. 2—A. Spencer Kaufman, Journal A. M. A. July 15, 1922. 3—A. M. Alden, Journal Mo. State Med. Association, May 1923. 4—Harry Boyd-Snee, Annals of O. R. & L., Sept. 1924. 5—F. Holt Diggle, The British Medical Journal,Nov. 22, 1924. 6—W. Oaken, Die Anwendung der Warmestrahlen in der Ohrenheilkunde, Therap. Halbmonatsh. Dec. 1, 1920.

COMMITTEE REPORTS, ANNUAL MEETING, TULSA, MAY 12, 13, 14, 1925

REPORT OF THE COMMITTEE ON HEALTH PROBLEMS IN PUBLIC EDUCATION

Your committee presents for your consideration the following recommendations:

1—Full time county health officers.

2—Every teacher trained, in the next five years for public health work, instead of depending on a nurse whose work is necessarily "few and far between individual inspections."

3—We advocate more articles for the press, written by medical men, in the name of Medical Society, or a health department.

4—We advise that County Societies make provision for public meetings at which their members may make addresses in the hope of educating the public in health matters especially the prevention of disease. There are many subjects which may be well discussed at such meetings such as:

Certain phases of the endocrine glands.

Tuberculosis.

Vaccination and innoculation against various diseases.

Efforts through the schools to prevent the infectious diseases common to childhood.

The prevention and spread of skin, eye and intestinal ailments.

The correction of breathing defects and others which will easily suggest themselves.

The matter will be of interest to the public when properly presented and will be of decided value in improving the health of the people of our state.

We recommend that there be a complete list made of all members of State Medical Association together with their specialty or their preference of specialty. This will be a rather difficult matter to decide and it may be that the State Health Department will be the best agency to handle this matter but with the approval of the State Medical Association. Further, it may be best determined that the man is following a certain specialty or has a preference for such by the various councilors of the State Association who are possibly in closer touch with the Medical Fraternity throughout the State than anyone else.

If such a list can be compiled it would seem from the number of inquiries received regarding whom to employ as a reputable physician might be fairly answered by supplying a list of such physicians.

Adopted—

HORACE T. PRICE, M. D.,
Chairman.
W. A. LACKEY, M. D.
WINNIE SANGER, M. D.
CARL PUCKETT, M. D.

REPORT OF COMMITTEE ON MEDICAL EDUCATION

Mr. President and Members of tne House of Delegates:

Obviously, medical education is of importance in so far as it contributes to the good of society, and your committee has considered the question from that point of view.

We shall not enter into an argument to prove that medical education has contributed in a most valuable and remarkable manner to the progress and happiness of the human race. Every intelligent person knows that is true, whether he is or is not a member of the medical profession. But can it be said that the work and progress of the profession has been due to the active interest of the majority, or have the educational results of which we, physisians and laymen alike, are the recipients today, been brought about through the efforts of a small minority of the profession? The latter would seem to be true.

Believing that there are powerful unused educational potentialities in the great mass of the profession, we wish to earnestly call attention to the desirability of more uniform and presistent endeavor on the part of the members of our scientific organizations, particularly the State Medical Association and the component County organizations. Through the wise and proper assignment of scientific work to the individual units of the organizations, we are of the opinion that great good would accrue to those who actively do the work, the organization would be buttressed by sound thinkers, and out of it all would develop groups of logical men and women who would apply the principles of rational medicine in a way and manner that would bring great credit to the professional and great good to society.

Your committee wishes to call attention to the creditable work being done by our State Commissioner of Health and the various units operating under his direction. The State Department of Health should be commended for its effort to place the department upon a strictly scientific basis for through such an organization the citizenship of the State can be reached by educational procedures, as a result of which it is possible for the people to receive not only assistance, but enlightenment; not only protection, but the means through which they can protect themselves. It is through education of this character that the shot-gun quarantine is relegated to oblivion, while in its place we find the humane and scientific application of preventive measures, the normal activities of a normal community continuing in their usual and accustomed way.

The proper educational standard in medicine could not be maintained without adequate supervision by constituted authorities. To that end, the State Board of Medical Examiners should receive active support in connection with the proper application of scholastic and other essential requirements in the cases of those who make application for license. While just and reasonable procedures ought always to be commended, your committee believes that there should be a minimum standard equal to the requirements of class "A" medical schools, and it is urged that the Board of Examiners be supported in the application of this rule.

Attention is called to the progress of the medical department of the State University. This school has been rated as a first-class, or "A" grade medical college since March 1920. It is engaged mainly in educating the young men and women of this State who have chosen medicine as a career. Your committee believes that it deserves the good will and active support of the profession of the State, and it is urged that the members of this Association take steps to become better acquainted with its facilities, and take advantage of the opportunities it offers in both laboratory and clinical investigation.

Finally, your committee wishes to call attention to the value of just and ethical procedures on the part of members of our profession. If we are to render the right kind of service to our day and generation, the traditions of the fathers must be preserved. We are members of one of the great liberal professions. We are members of a profession whose very existence is based upon the ideal of unselfish service. In these latter days the onslaughts of commercialism against this ideal has sometimes caused fear and apprehension, but, please God, we believe that the ideal still lives, and we call upon the physicians of this Association to exert themselves to the end that all the people in this state may receive adequate, intelligent, conscientious service at the hands of the pro-

fession, for, after all, this is the sum and substance of medical education.

Adopted—

LE ROY LONG, M. D.,
Chairman.
A. S. RISSER, M. D.
T. H. McCARLEY, M. D.
THOS. B. HINSON, M. D.

REPORT OF COMMITTEE ON HOSPITALS

Your committee desires to present as its report a portion of an address delivered by the chairman recently, in which the activities of this committee have been chronicled, and adopt this as our report.

In accord with the evolution in the development of hospitals of this State, and in an endeavor to inform and interest the public, joint open meetings have been held under the auspices of the Oklahoma State Hospital Association and the Committee on Hospitals of the Oklahoma State Medical Association. In addition to the home talent the following distinguished persons have made public addresses: McAlester, Okla., May 18, 1921, Dr. C. M. Rosser; Dallas, Texas and Dr. Jabez N. Jackson, Kansas City Mo.; Oklahoma City, May 10, 1922, Dr. P. G. Magunson of Chicago, Ill.; Tulsa, Okla., May 12, 1923, Dr. C. M. Rosser of Dallas, Texas and Mr. Robert Jolly, Houston, Texas; Oklahoma City, May, 1924, Dr. C. M. Rosser, Dallas, Texas and Dr. LeRoy Long, Oklahoma City.

Oklahoma joined in the organization of the first National Hospital Day, May 12, 1921. The prime purpose of this movement is to familarize the public with the hospitals in their respective communities. One important feature of this forward movement is the active cooperation of the Tulsa High School. Pupils, under their teachers' escort visit the Oklahoma Hospital, writing a description of a modern hospital and the object of Hospital Day. Fifty dollars in gold is awarded by the Oklahoma Hospital for the three best papers. This innovation has received favorable consideration by many hospital executives in other states.

January, 1924, the Oklahoma Hospital entertained Tulsa County Medical Society and representatives from a number of medical societies in the state. Among other features was a masterful clinic by Dr. L. J. Moorman of Oklahoma City.

In November, 1924, the Oklahoma Hospital cooperated with a group of dentists of this and adjoining cities consisting of Drs. A. L. Walters, H. G. Carson, Ray H. Ellis and Ira Malone, who brought Dr. Wm. L. Shearer, a distinguished Orificial Surgeon of Omaha, Nebraska, to this city to hold a teaching clinic for a period of one week, to which physicians, nurses and dentists of the State had access. This clinic will probably be permanently established and stimulate similar formations in other cities.

Support has been given the State Board of Nurses in their efforts to improve the qualifications of nursing service by raising the standards.

All of these efforts have been without public donation or expense to the State Hospital Association. The Association has had the whole-hearted support of "*Hospital Management*" and "*Modern Hospital*" as well as the principal newspapers throughout this state and the State Journal. The public has an obligation to perform and will willingly cooperate if intelligently advised of needs from time to time.

Dr. and Mrs. Fred S. Clinton and the Oklahoma Hospital are hosts Wednesday, May 13, 1925 at the Hotel Mayo at a dinner for the membership of the Oklahoma State Hospital Association and distinguished members of the medical profession as invited guests. A few short addresses, of which Dr. Jabez N. Jackson of Kansas City, Mo., will deliver the principal one, will be delivered on this occasion.

FRED S. CLINTON, M. D.,
Chairman Hospital Committee.

Adopted.

REPORT OF COMMITTEE ON STATE MEDICAL ASSOCIATION LIBRARY

We, the library committee appointed by the President submit the following report:

1. It is our judgment that the Oklahoma State Medical Association should take steps to establish a Medical Library in the State of Oklahoma to be known as the Oklahoma State Medical Association Library.

2. That this library be located at the most accessible place in the state for the accommodation of its members as determined by a vote of the house of delegates.

3. That its management be conducted by a library board selected by the president and council.

4. That the management procure a librarian who is or will become conversant with the workings of the library of the A. M. A., to be custodian of the library and to attend to the tabulating of books, periodicals and mailing out same at the request of members, keeping a careful record of all properties and request a reasonable return period of all properties sent out or carried away from the library.

J. A. HATCHETT, M. D.
ELLIS LAMB, M. D.

Report Accepted—

REPORT OF COMMITTEE ON PUBLIC POLICY AND INSTRUCTION OF THE PUBLIC, 1925

Your committee on Public Policy and Instruction of the Public has outlined a plan whereby regular medicine may be "sold" to the public thruout the state. The relation of medicine to the community is of as much interest to the laity as to the physician. The eagerness with which the general public received information of this nature should stimulate the profession to continuously supply them from authoritative sources. The average layman today has a sufficient reading knowledge of medical subjects so that he is able to ask intelligent questions and when he does this he should be given intelligent answers. The mystery surrounding medicine is being broken down and it is our duty as members of the medical profession to see that the public receive their medical information from reliable sources.

Soon after the appointment of this committee we divided the state into four districts, assigning to each member of the Committee, except the chairman, a district, over which he would have personal supervision.

The greatest assistance to and really the initial activity of this committee was the bringing to Oklahoma by this Association of Dr. Morris Fishbein, Editor of the Journal of the A. M. A., for a series of public lectures on various medical subjects of interest to the general public. This series was made possible through the interest and personal solicitation of our President, Dr. E. S. Lain, to whom the full credit must be given. The committee assisted in arranging the itinerary, in getting out newspaper announcements and in stimulating the work of the local committees so as to secure as large audiences as possible. Dr. Fishbein gave from one to four addresses in each of the following towns; McAlester, Durant, Ardmore, Oklahoma City, Chickasha, Enid, and Tulsa. His remarks were a source of inspiration to the physicians as well as a matter of interest to the public.

As a means of following up this series of lectures and getting this information to those counties to which Dr. Fishbein was not able to go, the committee compiled a lecture on "The Relation of Medical Science to the Community" which was molded along the lines of Dr. Fishbein's address on "The Progress of Medical Science." Each member of the committee was instructed to arrange in his district public meetings of the various County Medical Societies at which this lecture was to be read as a part of the program.

The County Societies have been informed through the State Journal that this lecture is ready. They have been asked to get in touch with the Committee members in charge of their district who will give them ideas on working up this public meeting and furnish them a man to read this lecture. Only a few such open meetings of the County Medical Societies have been held, so that the work has just begun.

Since the work of this committee has only started and since the completion of our present plans will take at least one or two years longer, we recommend that the committee be continued a standing Committee of the Association and that with what changes in the personnel the incoming presidents may wish to make that the Committee be continued and instructed to proceed with this work. We also recommend that the name of the Committee be changed to Committee on Public Relations in place of the rather unwieldly name which it has at present.

WM. H. BAILEY, M. D.
Chairman.
P. P. NESBITT, M. D.
A. S. RISSER, M. D.
McLAIN ROGERS, M. D.
C. W. TEDROWE, M. D.
A. L. STOCKS, M. D.

Adopted.

REPORT OF DELEGATES TO A. M. A. MEETING, CHICAGO, 1924

The seventy-fifth annual session of the American Medical Association held at Chicago in June, 1924, was the most interesting and largely attended session ever held and this is partially accounted for as Chicago is the home of the Association and they were housed in their new building at 535 North Dearborn Street, which has nothing to compare with it in the world. The plant is complete in every detail, and during the time when we were in session all day luncheon was served in the building and there was an abundance of committee rooms aside from the large general assembly room which was ample to take care of all the delegates at every session.

The House of Delegates had an attendance of one hundred and thirty-two, and the commercial exhibit was the largest ever assembled, and the scientific exhibit aroused unusual interest, particularly the special exhibit of fresh pathological tissues on the prevention and treatment of heart diseases.

As is cumtomary the first day the Credentials committee made a report and the secretary called the roll of the delegates. After the roll call the House of Delegates was addressed by Dr. Warnshius, speaker of the House, and Dr. Pusey, president-elect. Dr. Olin West, secretary, presented a very complete report which showed the membership of the Association in April, 1924, was ninety thousand and fifty-six, which is a gain of fifteen hundred over the membership reported the year previously, and the largest the Association has ever had.

Dr. West went into details relative to the State and territorial associations, component County societies, counselor District societies and also the individual member and organized medicine. He also took up the constitution and by-laws of State and County societies so that the same organized principle should run through the whole fabric of the organization as the County societies are the seeds from which the A. M. A. has been brought up. A committee was appointed to submit a uniform set of by-laws for Component societies and to report at the 1925 session.

The Board of Trustees brought in a very complete report, going into detail on the finances which I will not bore you with, but it showed the Association in a very healthy financial condition. After these reports the House adjourned until Tuesday A. M., and most of us wended our way to Olympia Fields where the A. M. A. Golf Association's ninth annual tournament was on.

Monday evening we were invited to a banquet in honor of Dr. George Simmons who resigned as Editor of the Journal after having held the post for twenty-five years. This banquet was attended by practically all of the officers of the Association, and all united in expressing their appreciation of the work that had been done by Dr. Simmons, and regretted his retiring.

The House of Delegates met in the assembly room Tuesday morning and the Speaker announced the Reference committees who were to serve during the session, and your delegate was placed on the Legislation and Public Relations committee with Dr. Pettitt of Oregon, Dr. Brown of Wisconsin, Dr. Steiner of Connecticut and Dr. Seeman of Louisiana, and this committee represented every section of the United States. All of the standing committees then made their reports which showed that they had not been loafing on the job since the last meeting, after which new business was taken up, and three strenuous days followed.

Dr. Franklin H. Martin spoke to the House on the subject of the Gorgas Memorial, and Dr. Martin's paper was referred to the Reference committee on Medical Education. The president, Dr. Wilbur of California, addressed the Delegates and Trustees and went into details on medical education and demonstrated that he was very familiar with the subject and will accomplish great things for the University of California.

As has been the custom for the last few years the Volstead Act was introduced in an attempt to get the Association to go on record for or against it, which the organization declined to do as they have enough troubles of their own.

The general meeting was held in the auditorium theater at which the regular routine program for such occasions was carried out, after which the president introduced Dr. Pusey, the president-elect, who made a presidential address which was a masterpiece and showed that Dr. Pusey knew more than the financial end of the Association after serving fifteen years as treasurer.

Wednesday the House of Delegates did not meet and the delegates attended their different sections and convened Thursday afternoon, the principal business of which was the election of officers which brought out several contestants for president, and Dr. Haggard of Tennessee was elected president on the first ballot, which was a very popular choice. After the election all the committees made their reports and the House of Delegates went into executive session to take up certain business, after which the House adjourned until called to order in 1925 by Dr. Warnshius who was unanimously re-elected speaker of the House.

Respectfully submitted—

W. ALBERT COOK, M. D.

This report is intended to brief only some of the more important transactions and questions acted on by the House of Delegates of Americal Medical Association.

1st—Because of complaint by Fellows that matter introduced into the House of Delegates and referred to a committee, but there being no announcement to members of the Association nor any general information that it has been referred to a committee, the result that the views of a large number of practitioners may be ignored because the House of Delegates, which is necessarily a limited body and the committee governed by their own views, and often the House of Delegates rely on report of committee. A recommendation by the speaker of the House of Delegates was adopted that the House of Delegates go into a Committee of the Whole for one hour or longer on second day of session and also on Wednesday or Thursday of the week of our session.

2nd—In the forceful address of President-elect Pusey (William Allen) on medical education, stressing the high cost of medical education and great length of time for present day medical graduates in procuring the degree of M. D. he pointed out that the average age of men entering the practice of medicine as 27½ years and that 7 years (the least time required) after leaving high school is longer than that required for any other craft or profession. That the expense necessary for the degree of M. D. is from $10,000 to $15,000. Referring to foregoing statements as determining factors in so many recent graduates entering the specialties without a general experience, with too large percent of present day graduates locating in cities and in consequence depleting rural communities of young medical men and in fact an inadequate supply of physicians.

Dr. Pusey then laid before House of Delegates his plan of training to secure the degree of M. D. as follows:

1 The present accredited high school education.

2 Three years medical training.

3 A hospital internship of not less than a year and a half.

4 Proper selection of students on the ground of fitness.

That would turn out a practitioner in four to four and one-half years. For the man who started out or later decided to become a specialist or consultant or who wanted a university or research career add the number of years to correspond to the collegiate Ph. D. The committee after considering the president's address reported as follows: We indorse in principle the discussion by the President-Elect of the perplexing affairs of medical education. Realizing, as we do, that a proper consideration of the suggestions will require an exhaustive study, your committee begs leave to ask that this be referred to council on medical education and hospitals with the suggestion that the council investigate the matter in the light of the excellent address of the President-Elect.

Report of Reference Committee on Medical Education Synopsis: That within a period of a few years the medical schools of the U. S. have been reduced from 160 to 80. The number of higher standard and better equipped schools has risen from two to seventy-four, sixty-three are integral parts of universities. Student enrollment reduced from 28,000 in 1909 to 12,930 in 1919 and has increased to 17,808 in 1923-1924. 97.3 per cent of 17,808 students are in institutions which have higher entrance standards.

Your committee believes at present rate of increase in number of better qualified graduates that before long there will be no question of a shortage of medical graduates. In the United States we have one physician to 724 inhabitants, against one to 1087 in the British Isles. Committee believes the chief reason that medical men move to larger places is that they do not want to subject themselves and their families to the hardships in districts without adequate sanitation, conveniences, schools,

churches and human intercourse, etc., and that this condition is being constantly alleviated by improvement in transportation, good roads, automobile, etc., enabling physicians to extend practice over larger areas.

Shall we attempt to cure this condition which is not due to raising of standard of medical education, but the dangerous, the humiliating, the suicidal method of lowering standards, which we have so painfully raised by years of hard struggle and conscientious work. Your committee believes the answer of the association will be no! By speeding up our secondary education, grammar and high schools, it is possible for a boy to be ready for college at 17 instead of 19 years. Motion to adopt report carried.

That the by-laws be amended at the next annual session as follows: Amend section 3, chapter 1, of the by-laws by substituting 1925 for 1903 in second line of that section, so that the first sentence of section 3, chapter 1, of the by-laws shall read: "At the annual session of 1925, and every third year thereafter, the House of Delegates shall appoint a committee on reapportionment, of which the speaker and the secretary shall be members." On motion it carried.

2nd—That the constitution be amended at the next annual session as follows: Amend section 3, article 5 of the constitution by substituting the figures 175 for the figures 150 in the second line of said section so that the first sentence in this section shall read: "The total voting membership of the House of Delegates shall not exceed 175."

Report of Committee on re-apportionment of Delegates: This committee composed of five, including speaker of House and Secretary, reported as follows: "That the re-apportionment of delegates be affected on the basis of one delegate for each 950 members or fraction thereof for all constituent associations having a recorded membership of 950 or more. Under the provision of the by-law each constituent the part of the applicant to unusually imassociation with a smaller membership is of course entitled to one delegate.

Supplementary Report of Judicial Council: The Medical profession is confronted today with one of the most important and serious problems that it has been called on to meet. Shall the medical profession vend its products directly to the consumer or shall it sell them to a middleman or third party? The American Medical Association favors periodic medical examination.

One company preferred stock $400,000, of which $326,000 is outstanding. Common stock outstanding $689,100. In 1923 earnings of this company $611,146.93—Profits $56,217—30 per cent on money paid in. This company has contracts with 39 old line life insurance companies to furnish them with reports on examinations made on their policy holders. One company has 8,000 examiners.

Jobbers buy service physicians for $5.00 and sell to individuals for $20.00 to $25.00 Always have urine sent to company.

Respectfully submitted—

McLAIN ROGERS, M. D.

Report of the Secretary-Treasurer-Editor, Thirty-Third Annual Meeting, Tulsa, May 12, 13, 14, 1925.

To the Council, House of Delegates, and Members:

Gentlemen:

In conformity with regulations of the Constitution and By-Laws, I herewith submit report of various phases of our work covering the time from May 1, 1924 to April 30, 1925, inclusive. Condensed statements of funds received and expended are included herewith. In addition to this there has been placed before the Council's auditing committee a report of the auditor, certificates of the Commercial National Bank, Muskogee, showing the amounts on hand in the different funds, as well as all books, duplicate deposit slips, and cancelled checks.

The Journal and Advertising:

Due to the falling off of national advertising patronage incident to business depression our advertising receipts have not been as large as the previous year, but they are now increasing and there is every reason to expect an increase during the coming year. We take this opportunity to again urge every member purchaser of supplies handled by our advertisers to give them preference when it comes time to make their purchases. Only by this means may we hope to continue to deserve a larger advertising clientele. Your advertiser supports your JOURNAL, you should support him as a matter of good business, justice and fairness.

Membership:

April 30, 1924 we had 1535 members; April 30, 1925 we had 1525 members, a decrease of ten.

Deaths in our Membership:

Since our last report we have had to chronicle the sad passing to the Great Beyond the following deceased members:

Dr. R. M. Shaw, Oklahoma City.
Dr. Percy A. Smythe, Enid.
Dr. J. M. Stephens, Hastings.
Dr. J. B. Murphy, Stillwater.
Dr. G. A. Morrison, Poteau.
Dr. J. J. Chapman, Lawton
Dr. E. J. Orvis, Blackwell.
Dr. W. J. Brinks, Manitou
Dr. W. E. Dicken, Monrovia. Cal.
Dr. J. H. Noah, DeNoya.
Dr. F. C. Rose, Allen.
Dr. J. R. Fleming, Keystone.
Dr. J. T. Williams, Webb City.
Dr. Thomas S. Williams, Stillwell.
Dr. J. H. Hartford, Oklahoma City.
Dr. J. Angus Gillis, Frederick.
Dr. J. P. Miller, Erick.
Dr. William Nairn, Alluwe.
Dr. J. F. McArthur, Wilburton.
Dr. G. W. Amerson, Milo.
Dr. L .H. Buxton, Long Beach, Cal.
Dr. A. J. Willard, Cyril.
Dr. R. S. Evans, Claremore.

Medical Defense:

At our last annual meeting the Medical Defense Committee decided to limit the expenses allowed in any given case entitled to defense to the sum of One Hundred dollars ($100). While this sum is in keeping with that in other states, notably our near neighbor, Missouri, there has been some dissatisfaction with the arrangement. However, the amount is often more than enough to settle without compromise many suits of the character involved, and was decided upon as a very liberal compromise as between abandoning this feature entirely or being drawn into the defense of very long and tedious litigation, some cases of which were of a doubtful nature, and some of which disclosed a desire upon the part of the applicant to unusually impose upon your Association. There is a strong tendency or belief in many quarters to entirely abandon this feature ,and for several reasons. It has been questioned whether or not any return feeling of loyalty has been induced by our undertaking these defenses. It has not been noticed that defense of such cases has particularly increased membership or interest in our Association in the localities where we have been called upon to expend large amounts. In some instances men we have defended have either entirely lapsed their memberships or have been unwarrantedly negligent in keeping it up. In other instances the only apparent interest the member has ever evidenced in our work has been that involved in fighting his particular case. The status of this work at present, with cases concluded and pending is as follows:

Case No. 5943 Wagoner County—pending.

Case No. 28053 Tulsa County—dismissed by plaintiff.

Case No. 8050 Carter County—dropped on account of lapse in membership.

Case No.5516 Caddo County—verdict in favor of defendant.

Case No. 2622 Marshall County—dismissed; defendant served by trickery.

Case No. 45142 Oklahoma County—ready for trial in due course.

Case No. 24172 Tulsa County—ready for trial in due course.

Case No. 8136 Lincoln County—Case turned over to defendant's own attorneys.

Case No. 3169 McClain County—dismissed by plaintiff.

Case No. 7049 Comanche County—pending for some time.

In too many of the above it has been asserted by the defendant physician that the suit was inspired by a professional competitor, even though that activity was not disclosed at the trial.

Finances:

FINANCIAL STATEMENT

OKLAHOMA STATE MEDICAL ASSOCIATION
Dr. C. A. Thompson, Secretary-Treasurer-Editor

Muskogee, Okla., May 1, 1925.

RECEIPTS

May 1, 1924, Balance on hand in bank	$2,496.34
Advertising and Subscriptions	6,328.05
County Secretaries	6,485.10
Medical Defnse Fund, Loan	2,500.00
Interest, (Liberty Bond)	21.25
Total	$17,830.74

EXPENDITURES

Printing: JOURNAL	$5,160.60	
Miscellaneous	449.99	$5,610.59
Secretary's Salary		2,356.89
Due Secretary, 1924 Salary		83.90
Business Manager, Salary		1,820.00
Office Rent		279.60
Stamps and Postage		225.00
Telephone, Telegraph, Drayage and Express		33.13
Office Supplies		157.15
Press Clippings		55.00

Refunds	70.00
Treas. Bond and Audit of Books	45.00
Subscriptions	4.50
Expense, Oklahoma City Meeting, 1924	259.20
Legislative and Delegates Expense	501.57
Expense, Dr. Morris Fishbein Lectures	239.72
Checks deposited in bank returned unpaid	12.00
Medical Defense Fund	1,000.00
Payment of Loan, (Med. Defense Fund)	2,500.00
Total	$15,253.25
May 1, 1925 Balance, Cash on hand	2,577.49
Total	$17,830.74
Balance May 1, 1925, Cash on hand	$2,577.49
Liberty Bond	500.00
Total Cash Assets	$3,077.49
Balance, May 1, 1925, Cash on hand	$2,577.49
Checks, Nos. 1458, 1975, 2015 Outstanding	52.15
Cash in Bank, May 1, 1925	$2,629.64

(Signed) H. A. LEWIS, Auditor.

FINANCIAL STATEMENT
MEDICAL DEFENSE FUND
Muskogee, Okla., May 1, 1925

RECEIPTS

May 1, 1924, Balance on hand	$ 71.08
Time Deposites Cashed	3,500.00
Interest on Time Deposits	81.00
Okla. State Medical Assn. (Loan)	2,500.00
Oklahoma State Medical Assn	1,000.00
Total	$7,152.08

EXPENDITURES

Attorney's Fees and Legal Expense	$1,040.80
Okla. State Medical Assn. (Loan)	2,500.00
Time Deposits, (Com. Natl. Bank)	3,500.00
Total	$7,040.80
May 1, 1925, Balance on hand in bank	111.28
Total	$7,152.08
May 1, 1925, Cash on hand in Bank	$ 111.28
Time Deposits Com. Natl Bank	4,150.00
Total Cash Assets, May 1, 1925 Medical Defense Fund	$4,261.28
Total Cash Assets, Oklahoma State Medical Association	$3,077.49
Medical Defense Fund	4,261.28
Grand Total Assets	$7,338.77

(Signed) H. A. LEWIS, Auditor.

Respectfully Submitted,
C. A. THOMPSON,
Secretary-Treasurer-Editor.

TO WHOM IT MAY CONCERN:

This is to certify that there was to the credit of the Oklahoma State Medical Association on checking account with this bank, at the close of business, April 30, 1925, according to our records, the sum of $2,629.64.

This bank was holding for said Association on that date, for safe keeping, one $500.00 Liberty Loan bond.

Yours very truly,

(Signed) E. D. Sweeney,
Vice-President
Commercial National Bank,
Muskogee, Oklahoma.

TO WHOM IT MAY CONCERN:

This is to certify that there was to the credit of the Medical Defense Fund on checking account with this bank, at the close of business, April 30, 1925, according to our records, the sum of $111.28; and on time deposit the sum of $4,150.00, evidenced by three certificates of deposit as follows:

No. 16206 dated 2-20-25, $1,500.00.
No. 16207 dated 2-20-25, $2,000.00.
No. 16349 dated 4-24-25, $ 650.00.

Yours very truly,

(Signed) E. D. Sweeney,
Vice-President.
Commercial National Bank,
Muskogee, Oklahoma.

Report adopted.

NOTED CHEMISTS WILL GIVE AID TO HOOVER

The appointment of an advisory committee composed of outstanding members of the chemical industry to cooperate with the Department of Commerce has been announced by Secretary Hoover.

The purpose of this committee is to assist the chemical division of the department in mapping out a program which will be of the most practical and immediate benefit to the industry.

The membership of the committee, as announced by Secretary Hoover, includes Dr. Leo Bakeland, president, American Chemical Society and inventor of bakelight; Dr. A. S. Burdick, president of the Abbott Laboratories of Chicago, and formerly president of the American Drug Manufacturers' Association; Dr. H. E. Howe, editor of the Journal of Industrial and Engineering Chemistry; Dr. Charles H. Herty, president of the Synthetic Organic Chemical Manufacturers' Association; Henry Howard, chairman of the board of governors of the Manufacturing Chemists' Association; G. Ober, president of G. Ober & Sons, Baltimore, and past president of the National Fertilizer Association; E. G. Trigg, president of John Lucas & Co, Philadelphia, and president of the Agricultural Insecticide and Fungicide Association; A. Creassy Morrison, president of the Acetylene Gas Manufacturers' Association, and S. W. Wilder, secretary of the Manufacturing Chemists' Association.

THE JOURNAL

OF THE

Oklahoma State Medical Association

Issued Monthly at Muskogee, Oklahoma, under direction of the Council

VOLUME XVIII JULY, 1925 No. 7

DR. CLAUDE A. THOMPSON.....Editor-in-Chief
308 Barnes Building, Muskogee, Okla.

DR. P. P. NESBITT.....Associate Editor
814 Surety Building, Muskogee, Okla.

Entered at the Post Office at Muskogee, Oklahoma, as second class mail matter, July 28, 1912.

This is the official journal of the Oklahoma State Medical Association. All communications should be addressed to The Journal of the Oklahoma State Medical Association, 308 Barnes Building, Muskogee, Oklahoma. $4.00 per year, 40c per copy.

The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 308 Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application.

It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

PRINTED BY HOFFMAN-SPEED PPINTING CO., MUSKOGEE

EDITORIAL

THE SOUTHERN AND AMERICAN MEDICAL MEETING AT DALLAS.

The Southwest is unusually fortunate in having secured two great coming events scheduled for the near future. These will give many members of the medical profession opportunity to attend meetings who have never before been able to be present on account of long distance and other impediments.

The Southern Medical Association will meet in Dallas November 9 to 12, and the American Medical Association will meet there in the Spring of 1926.

Dallas will be hard put to it to entertain these meetings on account of the normally crowded condition of her hotels, but the spirit of the Southwest has a happy faculty for overcoming any and all obstacles, so prospective attendants need hardly worry on that score, but everyone should cooperate by giving early notice of their intentions to attend these meetings, thereby lightening the load of the various committees in charge.

The Southern Medical Association has grown into the second medical organization of America in point of size and attendance. It is second to none in offering matters of interest to the medical profession. A glance at the names sponsoring the organization is sufficient to warrant its worthiness. Oklahomans have the strongest personal interest and pride in making both these meetings as successful as possible. The American Medical Association has heretofore met in the greater centers of population, and it is a distinct compliment that they have paid the Southwest in selecting Dallas for the 1926 meeting. In this instance we should heartily join our Texas neighbors in making the meeting successful from every standpoint.

VACATION DANGERS.

Nearly everyone takes more or less of a vacation if it is possible during the summer months. It is very beneficial, also very dangerous, from the standpoint of various infections incident to Oklahoma and the season of the year. These may, however, be largely avoided by remembering the sources of the infections and observance of simple rules for prevention.

Theoretically all should be protected against typhoid by proper prophylactic vaccination, but practically they are not. This is especially true of the younger people, who are also more prone to infection and to the severer types of the disease. Time has proved beyond question that this preventive measure is practically free from danger or inconvenience, also that it is almost surely protective. Those who will not or negligently fail to acquire such protection must of necessity, if they would be protected, look carefully into the matter of protection of water and food supplies. Many of them do not realize that the clearest hill or mountain stream may

be most dangerous. Every means available within reason to protect the material taken into the digestive tract should be used.

Malaria is prevalent in Oklahoma, especially is this so during the summer months, when the mosquito is at her best form. The only protection against this infection is to stay away from the mosquito or properly protect the sleeping place against it by screens. Anyone may carry sufficient moquito bar along on the trip to serve the purpose, it is cheap and effective.

There are many other infections not so prevalent, but dangerous when they do arise. Dysentery calls for closely guarding the water and food supplies in similar manner as that used in typhoid protection. The entire matter of this protective work, of course lies with the family physician. His influence should be used in advising all the necessary protective means at his command.

—o—

Editorial Notes—Personal and General

DR. E. W. REYNOLDS, Bristow, was recently elected City physician, succeeding Dr. O. C. Coppedge.

DR. J. HUTCHINGS WHITE, Muskogee, is enjoying his trip to Europe, a card from London testifies.

DR. EVERETT S. LAIN, Oklahoma City, is taking some special work at Columbia University, New York, during June and July.

DR. W. N. DAVIDSON, and DR. H. C. MANNING, Cushing, Santa Fe surgeons, attended the annual meeting of the Santa Fe Railway Surgeons at Denver.

DR. T. F. SPURGEON, Frederick, is making an auto trip to New York with his family, where Dr. Spurgeon is taking some post-graduate work, and expects to return home by August 1.

DR. A. J. WEEDN, Duncan, is erecting a new modern two-story and basement brick hospital, with a forty room capacity, with X-ray, etc., and all installations of the very latest patterns, including a laboratory.

The YALE medicos entertained the Payne County Medical Society with a program and refreshments June 10. Drs. H. M. Prentiss and W. B. Hudson, Yale, and Dr. Fred D. McBride, Oklahoma City, read papers.

DR. and Mrs. D. D. McHENRY, Oklahoma City, recently returned from the East, where they spent a month in New York, Washington and Boston, and attended the commencement at Harvard, where their son, Chester McHenry was graduated an M.D.

DR. H. C. MANNING, Cushing, has leased the Cushing Municipal Hospital for another year.

DR. S. E. MITCHELL, Muskogee, attended the officers training school held at San Antonio in June.

DR. H. B. AMES, Alva, and family, are making a two months' trip through Yellowstone Park and the Northwest.

DR. ERNEST BALL, formerly of Ebano, Mexico, has been touring the U. S. since January, and expects to locate at Antlers shortly.

DR. E. M. HARRIS, Cushing, was called to Wilburton recently to be with his father, who was suffering from an attack of ptomaine poisoning.

DR. G. H. STAGNER, Erick, has three excellent locations for physicians; one as assistant to himself at Erick, and two in the vicinity of Erick.

DR. D. W. HUMPHREY, Oilton, father of Dr. B. H. Humphrey, Sperry, died June 16th. Dr. Humphrey was 68 years old and had been practicing medicine for 48 years.

BECKHAM COUNTY MEDICAL SOCIETY, held its annual meeting recently, Dr. V. C. Tisdal, Elk City, being re-elected President, and Dr. W. D. Oliver, Erick, re-elected Secretary.

OTTAWA COUNTY MEDICAL SOCIETY has purchased a camp resort on the Elk River, and plans to hold its meetings there in future as well as using the resort as an outing place for their families.

STEPHENS COUNTY MEDICAL SOCIETY at its June meeting, decided to discontinue meetings for the summer, until September. A program was given, one a case of twin pregnancy by Dr. W. S. Ivy, and a case of diabetes by Dr. J. W. Nieweg.

DR. FRED S. CLINTON, Tulsa, was elected President of the Medical and Surgical Society of the Santa Fe Railway at their 27th annual meeting in Denver, Colorado, June 22-23, 1925. There were eight states represented at the opening of the session.

DR. D. L. GARRETT, Tulsa, recently made an airplane trip of 400 miles to Shamrock, Texas, to operate on the son of Dr. J. W. Gooch for appendicitis, making the trip in three hours flying time. Dr. Gooch's son was suffering from an acute attack of appendicitis and was operated on in his father's hospital at Shamrock. He is recovering.

MUSKOGEE COUNTY MEDICAL SOCIETY held an interesting meeting at the Town and Country Club June 8. After a dinner the subject of the evening was considered: "Anesthesis, History - Pharmacology - Indications and contra-Indications." The papers were read by Drs. C. V. Rice on "Nitrous Oxide"; N. R. Holcombe on "Ether"; C. E. DeGroot, on "Chloroform"; Ed White on "Ethylene Gas"; and W. P. Fite on "Local Anesthesia". The papers were widely discussed and the meeting was a success.

DR. FRED S. CLINTON, Tulsa, announces the sale of he Oklahoma Hospital, to the Delaware Baptist Association, an organization of churches of Tulsa, Creek, Osage, Nowata, Washington and Rogers counties. This records the passing of one of the State's most successful hospitals. Ten years ago Dr. Clinton incorporated the Association and erected a modern plant, since which time it has been under his direction. Associated with Dr. Clinton was a group of active men who have by their cooperation made the institution a marked success. Dr. Clinton remains as one of a board of members for the control of the property. Under the new arrangement the hospital will be owned and controlled by the Baptists, it will be conducted on entirely non-sectarian lines. Other denominations will be represented on its management, and it is proposed to make it a great protestant hospital. All present employees will remain with the new management.

DR. JOHN D. LEONARD, Muskogee, Director of Muskogee County Health Unit has filed the Unit's First Annual Report. It shows the various types of work performed and gives much statistical information. It gives the death rate, per 1000 as 19.72 per cent; births 11.16 per cent. Deaths under two years were 24.65 per cent; stillbirths 9.30 per cent. A great deal of laboratory work was performed, including cultures for typhoid, Widals, malaria, Hookworm, etc. Schools, institutions, all towns and villages were given adequate sanitatary inspection and control, as far as possible. Considerable progress was made in prenatal and maternity work.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
1006 First Nat'l Bank Bldg., Oklahoma City

1. CLINICAL CASE REPORT.—Wm. L. R., age 36, tank builder, admitted to St. Anthony Hospital, July 4, 1922. Referred by Dr. P. M. Richardson, Cushing.

History—Three days before admission fell thirty feet into the bottom of a steel tank covered by eight inches of water. He landed on his outstretched arms, and head. First aid was rendered at the Cushing hospital. Both elbows, arms, wrists and fingers were extremely swollen and pain was so severe that morphine was required. There was a large laceration on the forehead, but no cerebral symptoms. X-rays revealed dislocation of the ulna and radius in the left elbow, fracture of the carpal scaphoid and forward dislocation of the carpal semilunar bone in the left wrist, also a fracture of the base of the first metacarpal bone. There was a comminuted fracture of the head of the radius and internal condyle of the humerus of the right elbow and fracture of the middle metacarpal bone. The elbow was reduced immediately, and a cast applied from axilla to the knuckles with both elbows flexed to a right angle. On July 18th open operation was performed on the right elbow and the head of the radius and several small fragments of bone removed. There was a large hematoma in this region which had become infected. This was treated by Dakin's solution and cleared up within a few days. On August 5th, the elbow had to be incised again for an abscess. This also cleared up promptly. On August 14th, the left wrist was operated upon and the carpal semilunar together with the proximal fragment of the scaphoid bone were removed. The incision was on the palmar surface immediately to the ulnar side of the flexor carpae radialis. The medium nerve and flexor digitorum muscles were pulled to the inner side while the flexor profundis tendons were separated so as to expose the semilunar. It was found lying anterior to the head of the os magnum. Physiotherapy was started as soon as possible on the elbows, wrists and hands, and traction manipulation splints were applied to the left hand. The ultimate results in six months time were as follows:

About 50% motion in the right elbow, full motion in the right wrist and hand. Full motion in the left elbow with almost total loss of use of the left wrist and hand.

Discussion:—The important sequela in this case is the injury to the left wrist. Fracture of the scaphoid bone with dislocation of the semilunar, or either lesion by itself is far more painful and disabling than Colles Fracture of the radius. It produces a typical deformity followed by a spasticity of the tendons in the hand which results in a more or less permanent stiffness and deformity of a characteristic type. The writer has termed this deformity neuro-spastic fixation. When the semilunar alone is dislocated early reduction will give a perfect result. When the scaphoid is fractured it usually unites in fibrous union and there is usually some limitation of motion in the wrist together with persistent pain and weakness. Early removal of the proximal fragment is probably the best treatment. The great danger is overlooking either of these injuries in the x-ray examination, because the resulting deformity is so disabling and the pain is so persistent that the morphine habit may be acquired.

"LATERAL X-RAY SHOWS DISLOCATION OF THE SEMILUNAR FORWARD. A. P. VIEW SHOWS FACTURE OF SCAPHOID."

2. PROTEIN THERAPY: ITS USE IN CHRONIC INFECTIOUS ARTHRITIS.—J. C. Middleton, Glasgow Med. Journal, Sept., 1923, p. 124.

Middleton records the results in the patients suffering from rheumatoid arthrisis and allied conditions. Six were males and four were females, the average age being 40 years.

Bacillus typhosus in doses of 100,000,000 bacilli were given. The temperature reaction varied from 101 degrees to 104.8 degrees, and lasted as a rule about 24 hours. No serious effects were felt in any of the cases and definite improvement was recorded in most of them. Few, however, were of the severe bed ridden type where we need help most.

3. OPERATIVE TREATMENT OF PERIPHERAL PARALYSIS (POLIOMYELITIS AND NERVE INJURIES) THROUGH THE TRANSFERANCE OF POWER OF A HEALTHY TO A PARALYZED MUSCLE BY MEANS OF A NEWLY FORMED TENDON. —Katzenstein. Med. Clinic, January 13, 1924, p. 41.

The nature of this operation consists in the utilization of power of a muscle situated above the sphere of paralysis, i.e. in a higher "storey" and in the avoidance of splitting this muscle. Out of fascia or skin a new tendon is formed which is connected above with the disperser of power, the active muscle, and is attached below to the paralyzed or group of muscles. The contraction of the disperser-muscle will be transmitted by means of the artificial tendon to the paralyzed musclature. The choice of the corresponding power disperser will result in an automatic action of the activated joint, and no reeducation of muscle, as in the old methods, would be required. The operation has been performed 30 times in 28 cases, and has proven very satisfactory in re-establishing function of the paralysis of the facial nerve, the radical, and the sciatics, and poliomyelitic paralysis of the peroneal muscles, the tibialis group, and one case with total paralysis of the thigh and leg muscles.

4. KOEHLER'S DISEASE OF THE SECOND METATARSAL.—Altschul. Med. Clinic, Jan. 3, 1924, p. 42.

Based upon 42 previous published and five additional cases of the author, he gives the following interpretation of the mode of devolpment of this affection: Through change of static relations the second metatarsal head is exposed to greater pressure. By this means pressure necrosis takes place in the epiphysis, which eventually collapses. Following this, a regenerative process of the metaphyseal perioteum takes place and leads to a rebuilding of the epihysis. The exuberance of the metaphysical periosteum spreads also diaphyseally and results in a thickening of the diaphysis. It is, however, possible that in these cases a constitutional weakness of bone predisposes to the affection.

5. CORRECTION OF EXTREME FLATFOOT (GLEICH OPERATION).—J. P. Lord, Jour. Am. Med. Assn., Nov. 3, 1923.

The object of this operation is to so change the alignment of weight bearing as to shift the center of gravity inward and then throw the direction of the body weight outside the center of the foot.

This is done by making a curved incision a finger's breath behind the external malleolus. A thin broad chisel is then driven obliquely through the bone. The posterior portion is displaced inward the required distance and a plaster cast applied. Fourteen cases are reported, all but one of which had various other corrective operations done which were indicated in each case.

SURGERY

BLADDER INJURY DURING HERNIA OPERATIONS—Leigh F. Watson, American Journal of Surgery, April, 1924.

Large, irreducible, or strangulated hernias often present unusual difficuties, sometimes taxing the skill of the most experienced operators. The danger lies in accidental injury to the bladder, intestine, blood vessels or vas deferens. The bladder is involved in about 1 per cent of all inguinal hernias in adults. In certain cases it is only by a most careful examination of the sac that bladder injury can be avoided. Bladder wall should be suspected when the sac is thick, when it is covered by a quantity of lemon-colored properitoneal fat, or when there are numerous blood vessels on its surface. When the bladder is in the sac wall, it is nearly always on the inner side, and for this reason the sac should always be opened at a thin white point on the outer side.

PREVENTION OF POSTOPERATIVE HERNIA —Leigh F. Watson, Northwest Medicine, April, 1924.

A muscle-splitting incision should be used when possible. In long incisions muscle fibers must not be sacrificed needlessly, and the motor nerves must be saved. The fascia is the strongest structure in the abdominal wall and it is very essential to close it properly. It is frequently under tension and unites more slowly than muscle tissue; for this reason it is necessary to over lap each layer separately. When closure under tension is unavoidable, the patient's shoulders should be kept in a semi-reclining position and the knees elevated on pillows (the "jack-knife" position) for a week after operation. Tension or stay-sutures are valuable to prevent strain on the fascia stitches. A gain in weight after operation, especially in obese subjects, should be avoided because it increases intra-abdominal tension and weakens the abdominal wall. The use of an elastic belt checks the tendency to rapid accumulation of fat.

GASTROINTESTINAL SYMPTOMS AND EPIGASTRIC HERNIA.—Leigh F. Watson. New York Medical Journal and Record, April 16, 1924.

Hernia in the linea alba has often been confused with gastric and duodenal ulcer, and sometimes the two conditions exist at the same time. The presence of a tumor or slitlike opening in the linea alba, with or without the protrusion of a small mass on coughing, will help to establish a diagnosis of hernia.

In ulcer the symptoms come on at a certain interval after eating, while in hernia the paroxys-

mal attacks have no relation to meals but usually follow physical exertion, and the patient finds the most relief is secured by assuming a doubled up position, which relaxes the linea alba—when the omentum slips back into the abdominal cavity the pain disappears. Epigastric hernia must also be distinguished from cholelithiasis, cholecystitis, gastralgia, gastritis, carcinoma, sarcoma, appendicitis, nephrolithiasis, abscess or tumor of the abdominal wall, and the gastric crises of tabes.

JACK-KNIFE POSITION AFTER HERNIA OPERATIONS.—Leigh F. Watson, Annals of Surgery, August, 1924, Ixxx, p. 239-241.

The posture of the patient after an operation for hernia is usually neglected. If surgeons realized that they could reduce their recurrences materially, besides adding to the comfort of their patients, the jack-knife position would become a matter of routine for inguinal, femoral, unbilical and ventral hernias which presented difficulties in closing the fascial layers.

In inguinal hernia operations the best exposure is obtained by keeping the thigh extended until the deep sutures are ready to be tied, when it should be elevated, adducted and rotated inward. This reduces the distance between Poupart's ligament, the internal oblique and conjoined tendon from 25 to 50 per cent, depending on the size of the opening, the variety of hernia, and the development of the muscles. After the patient is returned to bed his knees and shoulders should be elevated 25 to 45 degrees by means of pillows and a back rest. This position takes the strain off of the stitches during the process of repair, permits a broad firm union of fascial flaps, and reduces the percentage of recurrences. The jack-knife posture should be maintained as long as the patient stays in bed.

BACTERIOLOGY and PATHOLOGY

Edited by Wm. H. Bailey, A.B. M.D.
Wesley Hospital, Oklahoma City

RENAL FAILURE CASTS.—Thomas Addis, M. D., San Francisco, Jr. A.M.A. April 4, 1925.

The author calls our attention to and makes an interpretation of the significance of what many of us have noted in the microscopic examination of urinary sediment for a long time, namely, broad hyaline and granular casts. He classifies them into three groups which he believes are merely degeneration forms of the primary cast of this group. These groups or stages he calls 1. "broad cellular casts", a group which he differentiates from the epithelial or leukocytic casts; 2. "broad waxy casts", which are a fading out or a waxy degeneration of the first form; and 3. the "broad granular casts", which are very dark in color and granular, representing the last stage before final disintegration. His checking the appearance of these casts in the urine with the blood chemistry of the patient is quite significant and seems to show rather definitely that they only appear in conditions where the renal function is sufficiently impaired to cause a damming back of the non-protein-nitrogenous elements in the blood.

His conclusions are as follows:

1. When all or almost all the casts found in the urinary sediment were very broad, the blood urea concentration was always more than 100 mg. per hundred cubic centimeters. The patients died in true uremia.

2. When only some of the casts were broad, there was always some degree of renal failure. But in certain patients during the height of activity of bacterial infections, a considerable proportion of the casts were broad, although there was no marked impairment of renal function; while in other patients whose general condition was good, none of the casts were broad, although there was a pronounced reduction in the functional capacity of the kidneys.

3. The morphology and physical characteristic of broad casts indicate that they are of cellular orgin. They are formed in the larger collecting tubules and in the ducts of Bellini. They occur in many diverse forms of renal injury.

LEUKOCYTOSIS FOLLOWING TYPHOID PERFORATION OF INTESTINES.—Edward M. Livingston, M. D. and Willard H. Squires, M. D., New York, Jr. A. M. A. April 4, 1925.

Although the most usual impression is that there is no immediate leukocytosis following a perforation in typhoid cases, the authors state that a search of the literature shows that at least five different teachings concerning this point are given. Some of these statements are diametrically opposite to others.

Their conclusions based on a review of the records on sixty-five cases of Typhoid perforation treated in Bellevue Hospital, New York, were as follows:

1. Although typhoid fever has greatly decreased in recent years, the surgical importance of intestinal perforation has not decreased.

2. From 1905 to 1924, 2,215 patients with typhoid were treated at Bellevue Hospital. Perforation of the intestines was established in 3.11 per cent of these patients. Operative recovery occured in 28.12 per cent.

3. The opinion that leukocytosis is a constant or usual finding following typhoid perforation of the intestines is erroneous.

4. In fifty-five cases of typhoid perforation, leukocytosis was present in but 15 per cent.; a slight rise in the white blood count in 15 per cent.; unchanged blood findings in 52 per cent., and a decided fall of leukocytes in 18 per cent.

5. Attempts to utilize these variable white blood reactions in the diagnosis of typhoid perforation of the intestines has led to repeated errors.

6. In cases representing clinical evidence of typhoid perforation of the intestines, any delays in operating to observe further the leukocytic changes are not justified.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

A SERIES OF CASES OF TUBERCULOUS LARYNGITIS IN CHILDREN.—Agassiz, C. D. S.: J. Laryngol & Otol., 1924. xxxix, 628.

The occurence of tuberculosis in the larynx in children is believed to be uncommon. Eleven cases are reported by the author and in all but one the diagnosis was confirmed by finding the tubercle bacilli in the sputum. In the one case

the physical signs and symptoms were of such a character as to leave little doubt as to the diagnosis.

Six of the patients were boys. The ages of the children range from 10 to 15 years.

In all cases reported, the absence of marked laryngeal symptoms of laryngeal involvement is a conspicious feature. In the majority the only symptom noted is the huskiness of the voice. In some cases there is no sign suggesting involvement of the larynx. Absence of dysphagia is a marked feature.

As a rule the lesion is not extensive. Swelling and redness of the arytenoids with or without tuberculous deposits or ulceration of the cords are apparently the most common changes.

The period of illness in the authors series of cases ranged from three months to four years.

THE CORRECTION OF SADDLE NOSES.—Eitner, E.: Med. Clin., 1924, xx, 1000.

Nasal deformities are usually corrected with tissues obtained from the patient's body, such as pieces of tibia, costal cartilage and pieces from the cartilinous septum or the frontal process, etc. Costal cartilage is particularly favored it is easily obtained and easily shaped.

The author has often used ivory which seems to have good resistance and can be easily shaped and sterilized. Its only disadvantage is that it is very rigid and breaks very easily.

As experience has shown that animal tissue which has been preserved for a long time has marked resistence to resorption, the procedure now recommended by Eitner is as follows:

Costal cartilage of young cattle or horses, which becomes ossified early, is taken fresh and placed in 1 per cent Grams solution for fourteen days. It is then transferred for several weeks to a solution of 10 per cent formalin and 5 per cent formalin and 5 per cent nitric acid until it has gained the desired pliability. It is then washed in water and kept in alcohol for at least a half year.

Before the cartilage is used a piece is cut to fit the defect and disinfected in alcohol for twenty-four hours. It is then implanted without further preparation. Healing occurs promptly and without reaction. In a few weeks the implant is firmly fixed and consolidated with the surrounding tissues.

While it is yet too early to determine whether the tissue will be permanently resistant to resorption, the results so far obtained are most promising.

THE IMPORTANCE OF TESTING OCULAR MUSCLES IN THE DIAGNOSTIC DIRECTIONS.—Lee, F. H.: Am. J. Ophth., 1924 s. vii, 838.

Lee calls attention to the anatomical relations of the globe, eye muscles, and orbit to stress the importance of testing muscles in the direction of their major action.

The inner wall of the orbit and the optic axis are practically parallel while the line of the vertical recti forms an angle of 22 degrees with the inner wall and the optic axis. To attain major action of these two muscles the optic axis must therefore swing out 22 degrees.

It is the author's contention that the functioning power of the muscles cannot be tested properly unless the eye is rotated into a position making the optic axis parallel with the line of major action of the muscle.

A STANDARDIZED TEST OBJECT FOR VISUAL FIELDS STUDIES, ELECTRIC ILLUMINATION.—Evans, J. N.: Am. J. Ophth., 1924, 3s. vii, 854.

In an attempt to standardize all of the elements entering into perimetric work, Evans has devised a tube with a cartridge containing a daylight filter, a slot for the various test colors and an unglazed porcelain target at 45 degrees to reflect the light through small apertures. The tube can be used as a test object for perimeter, campimeter and tangent screen.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

WHAT MAY THE "ARRESTED TUBERCULOUS" EXPECT ON RETURN TO INDUSTRY?—W. I. Hamilton, Journal of the Outdoor life, March, 1924.

The most frequent conditions met by the arrested tuberculous patient on attempting to return to industry are, refusal to take any responsibility either through ignorance or fear or because the employer is not "socially minded," or good intentions but misunderstanding and lack of real information as to the demands of the case. In only a few instances is the health of the employee given adequate consideration.

The ideal condition would demand not only good working conditions but frequent and thorough physical examinations in order to detect all cases of early tuberculosis, adequate treatment and instruction in a sanatorium, intelligent after-care at home, utmost co-operation on the part of the patient with both sanatorium and employer, work adapted to the patient's physical and mental capacity, and careful medical supervision while becoming adjusted to that work.

Since only about 5% of the employed are working under conditions even approximating this ideal, it is obvious that agencies other than industrial must look after the patient during the trying period of his return to industry.

THE REHABILITATION OF ARRESTED TUBERCULOSIS CASES AT EUDOWOOD SANITORIUM.—Nathan Levitt. The American Review of Tuberculosis, August, 1924.

The problem of rehabilitation is one demanding much study in order to prevent the many relapses and to make more patients self-supporting. Disregard and misunderstanding of the physicians' advice are large factors in many of these relapses. Every physician sending a patient to a sanatorium and every one treating him there, should see that he thoroughly understands the nature of the disease and the necessity of an indefinite stay at the sanatorium. Another factor in the production of relapses and one which can be laid at the door of the average sanatorium is allowing patients who are apparently arrested to leave the sanatorium without a graded course of work under instructions as to his future.

Every sanatorium should have a work shop medical supervision and with only the vaguest of where each patient's reaction to work can be tested under the physician who has had charge of him. He can toughen there and either prepare to resume his former occupation or taught a more suitable one. His reaction to work should be made the test of his condition on discharge.

This problem has been solved at the Eudowood Sanatorium, Towson, Maryland, by the establishment of a farm-colony. This work was started in 1908 when a training school for nurses with arrested tuberculosis was also started. Both the farm colony and the training school have been successful from every standpoint, medical, social and financial.

ZINC STEARATE DUSTING POWDERS FOR INFANTS.

The second report of the Committee on Accidents from Zinc Stearate Dusting Powders appointed by the Board of Trustees of the American Medical Association has recently been published. Copies of this report, with an appendix showing the opinions of thirty-four representative pediatricians on the therapeutic value of such powders, can be obtained on request. Address, Committee on Zinc Stearate Dusting Powders, American Medical Association, 535 North Dearborn Street, Chicago, Illinois, enclosing a self-addressed, stamped envelope.

There were reported to the Committee 131 accidents from the inspiration of zinc stearate dusting powders by infants. Twenty-eight of the victims died. The Committee conferred with representatives of certain distributors concerning the dangers incident to the use of such powders on infants. Following a meeting held at the headquarters of the American Medical Association, these distributors agreed to cooperate by adopting self-closing containers for the powders they distributed and agreed that cautionary labels are desirable. Opinions were secured from thirty-four representative pediatricians concerning the therapeutic value of zinc stearate dusting powders. Thirty-one believe that such powders have no advantage over other dusting powders, that they constitute a hazard to infant life, and that their use should be discouraged.

If that man may be considered truly great who can make two blades of grass grow where only one grew before, what can be said of those who have made conditions such than only one death now occurs where two deaths occured fifty years ago —*Hygeia.*

IMPROVED METHOD FOR RABIES PREVENTION

Time was, and not so very long ago, when a mad dog could terrorize a whole community; to be bitten by such an animal was not merely a death sentence, but a sentence to the most horrible of deatns. The resourcefulness and persistent energy of one man, a pioneer, has changed all this. Pasteur's method of preventing hydrophobia was indeed the dawning of a new day. Still, for many years it was necessary for the victims of mad-dog bites to be taken to "institutes" for treatment, and not only failure but injury from the treatment was possible.

A pioneer is most honored by those who catch his spirit and continue to go forward. The Pasteur method has been improved. "Institutes" are no longer necessary. Toxicity has been found to be no essential factor in the immunizing treatment, and Rabies Vaccine is now available that is incapable of injuring the patient, no matter what dose in the "course" is given first or last—all being alike. And, strange to say, this Vaccine has been demonstrated to confer a higher degree of immunity than the desiccated spinal cord originally used.

Our readers are referred to the advertisement in this issue entitled "The Prevention of Hydrophobia," and for more complete particulars to Parke, Davis & Co., Detroit, Mich., who have recently issued a free booklet on "Rabies Vaccine."

AMERICAN BOARD OF OTOLARYNGOLOGY

An examination was held by the American Board of Otolaryngology on May 26, 1925, at the Medico-Chirurgical Hospital, Philadelphia, with the following results:

Passed	137
Failed	20
Total Examined	157

The next examination will be held at the University of Illinois School of Medicine on October 19, 1925. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Missouri.

The first spectacles invented were advertised as allowing free breathing; quite a comment on the early crude eyeglass! —*Hygeia.*

STANDING COMMITTEES

Medical Defense—Dr. L. S. Willour, Chairman, McAlester; Dr. P. P. Nesbitt, Surety Bldg., Muskogee; Dr. J. H. White, Surety Bldg., Muskogee; Dr. C. A. Thompson, Barnes Bldg., Muskogee; Dr. Ralph V. Smith, Commercial Bldg., Tulsa.

Hospitals—Dr. Fred S. Clinton, Chairman, World Bldg., Tulsa; Dr. E. E. Rice, Shawnee; Dr. M. M. DeArman, Miami; Dr. McLain Rogers, Clinton.

Public Policy and Instruction of Public—Dr. L. S. Willour, Chairman, McAlester; Dr. Wm. H. Bailey, 301 West 12th St., Oklahoma City; Dr. A. L. Stocks, Barnes Bldg, Muskogee; Dr. L. A. Mitchell, Frederick.

Health Problems in Public Education—Dr. Carl Puckett, Chairman, State Capitol, Oklahoma City; Dr. T. H. McCarley, McAlester; Dr. Horace T. Price, Commercial Bldg., Tulsa.

Legislation—Dr. J. M. Byrum, Chairman, Shawnee; Dr. E. S. Lain, Medical Arts Bldg., Oklahoma City; Dr. G. A. Wall, Palace Bldg., Tulsa; Dr. W. A. Tolleson, Eufaula; Dr. C. W. Tedrowe, Enid.

Medical Education—Dr. Lea A. Riely, Chairman, Medical Arts Bldg., Oklahoma City; Dr. Frank H. MrGregor, Mangum; Dr. A. B. Chase, Colcord Bldg., Oklahoma City.

Cancer Study and Control—Dr. LeRoy Long, Chairman, Colcord Bldg., Oklahoma City; Dr. J. F. Park, McAlester; Dr. A. A. Will; Shops Bldg., Oklahoma City.

Venereal Disease Control—Dr. W. J. Wallace, Chairman, Shops Bldg., Oklahoma City; Dr. F. E. Warterfield, Exchange Bldg., Muskogee; Dr. E. L. Cohenour, Bliss Bldg., Tulsa.

Conservation of Vision—Dr. W. Albert Cook, Chairman, Palace Bldg., Tulsa; Dr. E. S. Ferguson, Medical Arts Bldg., Oklahoma City; Dr. C. M. Fullenwider, Barnes Bldg., Muskogee.

Tuberculosis Study and Control—Dr. L. J. Moorman, Chairman, Medical Arts Bldg., Oklahoma City; Dr. John T. Wharton, Sulphur; Dr. R. M. Sheppard, Talihina.

Scientific and Educational Exhibits—Dr. Horace Reed, Chairman, Medical Arts Bldg., Oklahoma City; Dr. Claude T. Hendershot, Old Daniel Bldg., Tulsa; Dr. Earl D. McBride, 210 West 10th St., Oklahoma City.

Necrology—Dr. A. S. Risser, Chairman, Blackwell.

OFFICERS OKLAHOMA STATE MEDICAL ASSOCIATION

President, 1925-26, Dr. P. P. Nesbitt, Surety Bldg., Muskogee.

President-Elect, Dr. A. S. Risser, Blackwell.

First Vice President, Dr. S. E. Mitchell, Muskogee.

Second Vice-President, Dr. J. S. Fulton, Atoka.

Third Vice-President, Dr. R. S. Love, 601 Medical Arts Bldg., Oklahoma City.

Secretary-Treasurer-Editor, Dr. C. A. Thompson, 308 Barnes Bldg., Muskogee.

Associate Editor, President Dr. P. P. Nesbitt, Muskogee.

Meeting Place, Oklahoma City, May 1926.

Delegates to the A. M. A. Dr. Albert Cook, Palace Bldg., Tulsa, 1925-26; Dr. McLain Rogers, Clinton, 1926-27.

COUNCILORS AND THEIR COUNTIES

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. Dr. A. S. Risser, Blackwell. (Term expires 1928).

District No. 2 Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman, Dr. Alfred A. Bungardt, Cordell. (Term expires 1926).

District No. 3 Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. Dr. Walter Bradford, Shawnee. (Term expires 1928).

District No. 4 Caddo, Grady, Commanche, Stephens, Jefferson, Garvin, Murray, Carter, and Love. Dr. J. T. Slover, Sulphur. (Term expires 1926).

District No. 5 Pontotoc, Coal, Johnston, Atoka, Marshal, Byran, Choctaw, Pushmataha and McCurtain. Dr. J. S. Fulton, Atoka. (Term expires 1928).

District No. 6 Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. Dr. L. S. Willour, McAlester. (Term expires 1928).

District No. 7 Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. Dr. Gregory A. Wall Tulsa. (Term expires 1926).

District No. 8 Craig, Ottawa, Deleware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee, and McIntosh. Dr. J. Hutchings White, Surety Bldg., Muskogee. (Term expires 1928).

STATE BOARD OF MEDICAL EXAMINERS

Dr. William P. Fite, Barnes Bldg., Muskogee; Dr. Harper Wright, Grandfield; Dr. Harry C. Weber, Bartlesville; Dr. William T. Ray, Gould; Dr. D. W. Miller, Blackwell; Dr. L. E. Emanuel, Chickasha; and Dr. J. M. Byrum, Shawnee, Secretary.

Meetings held on second Tuesday and Wednesday in January, April, July and October, Oklahoma City. Do not address communications concerning State Board examinations, reciprocity, etc., to the Journal or to Dr. C. A. Thompson, Secretary, but to Dr. J. M. Byrum, Shawnee, Secretary of the Board.

The applicant for license, either by examination or reciprocity shall be a graduate of a medical school, the requirements of which for graduation shall have been, at the time of graduation, in particular less than those prescribed by the Association of American Medical Colleges for that particular year.

Reciprocal relations have been established with Missouri, Colorado, New Jersey, California and Louisiana, on basis of examination only, Arkansas, Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Mississippi, Nebraska, Nevada, New Mexico, North Carolina, Ohio, Tennessee, Texas, Vermont, Virginia, Washington, Wisconsin, West Virginia, on basis of a diploma and a license without examination in case the diploma and the license were issued prior to June 12, 1908.

CHAIRMAN OF SCIENTIFIC SECTIONS

General Medicine, Neurology, Pathology and Bacteriology, Dr. Claude T. Hendershot, Chairman, Old Daniels Bldg, Tulsa; Dr. Basil A. Hayes, Secretary, Colcord Bldg., Oklahoma City.

Ear, Eye, Nose and Throat, Dr. Joseph W. Beyer, Chairman, Palace Bldg., Tulsa; Dr. L. A. Newton, Secretary, Colcord Bldg., Oklahoma City.

Genito-Urinary, Dermatology and Radiology. Dr. Charles J. Woods, Chairman, Wright Laboratory Bldg., Tulsa; Dr. C. B. Taylor, Secretary, 1002 Medical Arts Bldg., Oklahoma City.

Obstetrics and Pediatrics, Dr. R. M. Anderson, Chairman, Shawnee; Dr. J. G. Binkley, Secretary, 133½ West "C" St., Oklahoma City.

Surgery and Gynecology, Dr. F. A. Hudson, Chairman, Enid; Dr. A. W. Pigford, Secretary, 510 Palace Bldg., Tusla.

CLASSIFIED ADVERTISEMENTS

COLLECTION SERVICE

American Medical Board of Adjusters, First National Bank Bldg, Chicago. Guaranteed Delinquent Collection Service. Anywhere U. S. A. (Medical Profession Exclusively). Debtors pay you direct. Litigation avoided. Adjustments encouraged. No "Agency" methods. Financially responsible. Write!

SITUATIONS WANTED — Salaried Appointments for Class A Physicians in all branches of the Medical Profession. Let us put you in touch with the best man for your opening. Our nationwide connections enable us to give superior service. Aznoe's National Physicians' Exchange, 30 North Michigan, Chicago. Established 1896. Member The Chicago Association of Commerce.

OFFICERS COUNTY SOCIETIES 1925

County	President	Secretary
Adair	I. W. Rogers, Watts	Jos A. Patton, Stilwell
Alfalfa	J. W. Lynes, Bryon	H. A. Lile, Cherokee
Atoka		
Beaver		
Beckham	V. C. Tisdal, Elk City	W. D. Oliver, Erick
Blaine		
Bryan	H. B. Fuston, Bokchito	John A. Haynie, Durant
Caddo	F. W. Rogers, Carnegie	Chas. R. Hume, Anadarko
Canadian	C. A. Pearce, Calumet	J. T. Riley, El Reno
Carter	T. W. Dowdy, Wilson	S. DePorte, Ardmore
Cherokee		
Choctaw	K. P. Hampton, Soper	E. A. Johnson, Hugo
Cleveland	J. L. Day, Norman	B. H. Cooley, Norman
Coal	J. J. Hipes, Coalgate	Frank Bates, Coalgate
Comanche	E. Brent Mitchell, Lawton	G. S. Barber, Lawton
Cotton		
Craig	W. M. Campbell, Vinita	P. L. Hays, Vinita
Creek	W. P. Longmire, Sapulpa	J. B. Lampton, Sapulpa
Custer	J. Matt Gordon, Weatherford	J. J. Williams, Weatherford
Dewey		
Ellis		
Garfield	A. E. Wilkins, Covington	Paul Champlin, Enid
Garvin	W. P. Greening, Pauls Valley	J. W. Stevens, Pauls Valley
Grady	W. H. Livermore, Chickasha	A. B. Leeds, Chickasha
Grant	S. A. Lively, Wakita	V. Hardy, Medford
Greer	Ney Neel, Mangum	J. B. Hollis, Mangum
Harmon		
Haskell		
Hughes	W. B. Bentley, Calvin	D. Y. McCary, Holdenville
Jackson	E. A. Abernethy, Altus	W. P. Rudell, Altus
Jefferson	L. L. Wade, Ryan	J. W. Watson, Ryan
Johnson		
Kay	L. C. Vance, Ponca City	J. C. Wagner, Ponca City
Kingfisher	Benj. I. Townsend, Hennessey	A. Dixon, Hennessey
Kiowa	William McIlwain, Lone Wolf	J. H. Moore, Hobart
Latimer	R. L. Rich, Red Oak	T. L. Henry, Wilburton
LeFlore	G. R. Booth, LeFlore	Earl Woodson, Poteau
Lincoln	U. E. Nickell, Davenport	C. M. Morgan, Chandler
Logan	Wm. C. Miller, Guthrie	E. O. Barker, Guthrie
Love		
Major		
Marshall	T. A. Blaylock, Madill	W. D. Haynie, Kingston
Mayes	L. C. White, Adair	Ivadell Rogers, Pryor
McClain	I. N. Kolb, Blanchard	O. O. Dawson, Wayne
McCurtain	R. D. Williams, Idabel	R. H. Sherrill, Broken Bow
McIntosh	N. P. Lee, Checotah	W. A. Tolleson, Eufaula
Murray	John T. Wharton, Sulphur	Howson C. Bailey, Sulphur
Muskogee	J. T. Nichols, Muskogee	A. L. Stocks, Muskogee
Noble		
Nowata	J. P. Sudderth, Nowata	J. R. Collins, Nowata
Okfuskee	A. J. Stephenson, Okemah	R. Keyes, Okemah
Oklahoma	H. Coulter Todd, Okla. City.	LeRoy Long, Jr., Okla. City
Okmulgee	H. D. Boswell, Henryetta	J. O. Lowe, Okmulgee
Osage	E. N. Lipe, Fairfax	Leonard C. Williams, Pawhuska
Ottawa	George A. DeTar, Miami	G. Pinnell, Miami
Pawnee		
Payne	Thomas A. Love, Ripley	J. Walter Hough, Cushing
Pittsburg	F. L. Watson, McAlester	L. S. Willour, McAlester
Pontotoc	S. L. Burns, Maxwell	J. L. Jeffress, Ada
Pottawatomie	T. C. Sanders, Shawnee	Wm. H. Gallaher, Shawnee
Pushmataha	H. C. Johnson, Antlers	J. A. Burnett, Crum Creek
Roger Mills		
Rogers	A. M. Arnold, Claremore	W. A. Howard, Chelsea
Seminole		
Sequoyah		
Stephens	W. S. Ivy, Duncan	J. W. Nieweg, Duncan
Texas		
Tillman	J. E. Arrington, Frederick	Jas. D. Osborn, Jr., Frederick
Tulsa	Horace T. Price, Tulsa	A. R. Wiley, Tulsa
Wagoner	T. J. Shinn, Wagoner	C. E. Hayward, Wagoner
Washington	O. I. Green, Bartlesville	J. V. Athey, Bartlesville
Washita	I. S. Freeman, Rocky	R. W. Baker, Cordell
Woods	Daniel B. Ensor, Hopeton	Oscar E. Templin, Alva
Woodward	J. C. Ross, Woodward	C. W. Tedrowe, Woodward

NOTE—Corrections and additions to the above list will be cheerfully accepted.

The Selection of a Physician—

The selection of a physician for an operation or as a family doctor, is usually made with some care. We consult those who have employed physicians and are governed largely by their recommendations. But having selected a physician, we follow his advice. We trust him even to the extent of submitting to operations that may have serious results.

The point is, we trust THE MAN WHO KNOWS.

Now, doctor, the institution and the firms advertised in this Journal were carefully investigated before their announcements were printed here. The medicinal products were submitted to laboratory tests, before they were accepted by the Council on Pharmacy and Chemistry.

On the same principle that patients trust you about matters with which you are informed so your publishers urge you to trust their judgment and buy goods from the advertisers who are admitted to these pages. Other considerations being equal, you should give your advertisers PREFERENCE because you know they are believed to be trustworthy. Don't speculate or experiment. Trust the APPROVED firms and goods!